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EVALUATION OF OPERATIONS BY MANAGEMENT

A Case Study conducted for Capital Airlines, Inc.

RETURN ON WHAT INVESTMENT?

James B. Weaver

CUTTING COSTS OF SALES-ORDER PROCESSING

Maurice S. Newman

EFFECTIVE ADMINISTRATION OF A MARKETING RESEARCH DEPARTMENT

Harry Deane Wolfe

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Editorial material in THE CONTROLLER is selected in accordance with the following:

CONCEPT OF MODERN CONTROLLERSHIP
of Controllers Institute of America

1. To establish, coordinate and maintain through authorized management, an integrated plan for the control of operations. Such a plan would provide, to the extent required in the business, cost standards, expense budgets, sales forecasts, profit planning, and programs for capital investment and financing, together with the necessary procedures to effectuate the plan.

2. To measure performance against approved operating plans and standards, and to report and interpret the results of operations to all levels of management. This function includes the design, installation and maintenance of accounting and cost systems and records, the determination of accounting policy and the compilation of statistical records as required.

3. To measure and report on the validity of the objectives of the business and on the effectiveness of its policies, organization structure and procedures in attaining those objectives. This includes consulting with all segments of management responsible for policy or action concerning any phase of the operation of the business as it relates to the performance of this function.

4. To report to government agencies, as required, and to supervise all matters relating to taxes.

5. To interpret and report on the effect of external influences on the attainment of the objectives of the business. This function includes the continuous appraisal of economic and social forces and of governmental influences as they affect the operations of the business.

6. To provide protection for the assets of the business. This function includes establishing and maintaining adequate internal control and auditing, and assuring proper insurance coverage.

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The Controller

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Correspondence

REACTIONS TO REDMAN LETTER

The following letter appeared in the June 1959 issue of THE CONTROLLER and reader experience or reaction was requested. The first letter received is published in answer to Mr. Redman's question below this letter.

Editors, THE CONTROLLER:

A situation worthy of careful consideration by corporate controllers is developing in companies which have invested funds in growth stocks with particular emphasis on equities in growth companies. This would include funds such as insurance, pension, and others of a similar character.

Under present accounting rules only the dividend income is included in earnings, or the operating income in the case where a company is recording the equity in the earnings of a subsidiary that has a substantial investment portfolio.

The question is this: *Where there is a policy of investing in growth situations—with the sacrifice in income that goes with it—is there any justification for recording a portion of the appreciation in the investment to offset the loss of income?* This loss of income is, of course, deliberately incurred in order to gain what is hoped will be a greater amount through appreciation in the equity of the growth company.

In one situation of which I have heard the company has assumed that a fair rate of return would be "x" per cent and as long as the appreciation exceeded this, the amount would be recorded.

T. G. REDMAN
Swift & Company
Chicago, Ill.

* * *

Editors, THE CONTROLLER:

I read Redman's letter with considerable interest. It points up a serious criticism of existing accounting practices with which I attempted to deal in an article, "Tomorrow's Accounting," in the June issue of the *Journal of Accountancy.*

A closely related problem also exists in the area of trust funds. Here, it is commonplace for gains or losses in security transactions to increase or decrease, respectively, the principal of a trust. Assume, for the moment, that trustees have the alternative of investing (1) in a relatively static security yielding 4½% or (2) in a growth security with good promise of a growth rate of 6% compounded annually. Putting aside tax considerations and regardless of the purpose of the investment, it would appear that the trustees should invest in the growth situation. However, if the purpose of the investment is to provide income, the growth situation is ruled out because capital appreciation is not recognized as income. This just does not seem to make sense, and it obviously is not in the best interests of trust beneficiaries.

Mr. Redman's situation involves the accounting postulate that requires a completed transaction before one can recognize income. Mr. Redman could, with propriety, solve the problem by selling growth securities at the end of the year and by repurchasing them one day later. While a solution, it would be a ridiculous course of action because of the cost of transactions. Accounting rules that might dictate such action simply cannot be defended. They could stem from earlier times when some rules were defended, at least in part, on the grounds that they were conservative. Yet, one can be very far afield by being unduly conservative. Conservatism, in and of itself, is by no means a virtue.

To attempt to recognize a fair return of "x" per cent limited by the amount of so-called unrealized appreciation is, at best, an arbitrary and half-way measure that can create additional problems. Where there is a recognized market for securities, appreciation is a measurable fact and should be recognized as such if financial statements are to be meaningful.

C. W. BASTABLE
Professor of Accounting
Graduate School of Business
Columbia University
New York

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Editors, THE CONTROLLER:

We have read your publication regularly for several years now and find it one of the best in the field for our purposes. Economic Evaluation at Atlas Powder Company is made up of chemists and engineers who prepare studies to evaluate the profitability of proposed company activities. We find THE CONTROLLER contains a good balance between the accounting approach and the records maintained by the company for other purposes.

The attached paper was prepared to highlight a few of the complexities in using accounting data for justification of capital expenditures. We think it fits in pretty well with your usual editorial content.

JAMES B. WEAVER
Director, Development
Appraisal Department
Atlas Powder Company
Wilmington, Delaware

Mr. Weaver's article begins on page 366 of this issue. —*The Editors*

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HOW OTHERS USE MATERIAL FROM THE CONTROLLER

Editors, THE CONTROLLER:

I am writing a book on budgeting to be published by the Ronald Press Company early in 1959. In that connection, I am planning to use material from the October 1953 issue of THE CONTROLLER by J. E. Zwisler entitled "Standard Product Investment." I would appreciate permission to use this material.

HERMAN C. HEISER
Philadelphia, Pa.

•

Editors, THE CONTROLLER:

We would appreciate your permission to copy for distribution to our management personnel the article entitled "EDPM—Getting Past the Barriers to Success" by D. Ronald Daniel from THE CONTROLLER, December 1958.

A. T. LEIMBACH
Edison Brothers Stores, Inc.
St. Louis, Mo.

Editors, THE CONTROLLER:

Congratulations on your excellent article entitled "Happy New Year: Happy Budgeting" by Charles F. Axelson in the January 1959 issue of THE CONTROLLER. If you have a reprint of it, I would appreciate having one to place in our library for use of my students in finance.

J. F. WESTON
Professor of Finance
University of California
Los Angeles, Calif.

•

Editors, THE CONTROLLER:

May we have permission to reproduce all or part of the following articles published in THE CONTROLLER: "Dynamic Variable Cost Control" by Fred G. Tuttle (February 1956); and "Streamlined Inventory Control and Stabilized Production Planning" by Herbert J. Richmond (April 1956).

It is our intent to use these articles in a readings book in the general area of administrative controls. Included in this volume will be substantive readings featuring information or insight into administrative controls. It is the aim of the authors, Professor B. C. Lemke and myself, to include materials which are in the frontier areas of administration. Thus far, we have reviewed several hundred articles and are requesting permission to reproduce this material with proper credit.

JAMES DON EDWARDS
Professor and Head
College of Business and Public Service
Department of Accounting & Financial Administration
Michigan State University
East Lansing, Mich.

•

Editors, THE CONTROLLER:

The article entitled "An Approach to Practical Budgeting" by John F. Rogge in your June 1958 issue of THE CONTROLLER was read with a great deal of interest by our company executives. We would like to get six copies so that our men in charge of budgeting could each have a copy for their personal perusal.

EVAN K. SHAW
Metlox Manufacturing Co.
Manhattan Beach, Calif.

•

Editors, THE CONTROLLER:

We need a total of 60 copies of "Review of Defense Contracts for Accountants" by P. M. Trueger published in the May 1958 issue of THE CONTROLLER for a course in which this article will be used. May we have your permission to reproduce?

NORMAN A. BROWN
Librarian, Military Products Division
International Business Machines Corporation
Oswego, N. Y.

•

Editors, THE CONTROLLER:

We would like permission to reprint for distribution to certain General Electric Company financial personnel, the article "Problems of Cost Control Under Varying Volume Conditions" by Franklin R. Ehmann which appeared in the September 1958 issue of THE CONTROLLER. Appropriate credits to THE CONTROLLER and to Mr. Ehmann will be given with the reprint.

DONALD HARPER
Measurement Service
General Electric Company
Schenectady, N. Y.

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SEPTEMBER 21-23	NATIONAL ASSOCIATION OF BANK AUDITORS AND COMPTROLLERS 35th Annual Convention	BOSTON
SEPT. 27-OCT. 1	TAX EXECUTIVES INSTITUTE Annual Conference	FRENCH LICK SPRINGS, IND.
OCTOBER 12-14	SYSTEMS & PROCEDURES ASSOCIATION OF AMERICA 1959 International Systems Meeting	TORONTO
OCTOBER 18-21	INSTITUTE OF NEWSPAPER CONTROLLERS AND FINANCE OFFICERS 12th Annual Meeting	SAN DIEGO
OCTOBER 25-28	AMERICAN INSTITUTE OF CPAs Annual Meeting	SAN FRANCISCO

Evaluation of Operations by Management

A case study conducted for Capital Airlines, Inc. by R. G. Lochiel, S. B. Goldthorpe, J. H. Smith and G. E. Park at the Eastern Conference, Richmond, Va.

INTRODUCTION AND PRESENTATION BY R. G. LOCHIEL:

If you are to evaluate our program, to understand the reasons it was adopted and to have an appreciation for many of the detailed phases of it, it is necessary that you have some mental picture of Capital Airlines. I trust, therefore, that you will forgive us if we start our remarks with what may sound like sales talk in some of its aspects. While that is not our purpose, we would be less than honest if we did not admit that we hope the sales by-product rubs off on you.

Capital Airlines is the fifth largest domestic air carrier and is now in its 31st year of operation. Facts as to the physical size of the company and its operating volume include:

1. Annual sales in 1959 will exceed $110 million and 95 per cent of this comes from passengers.
2. Capital operates 7000 route miles in 17 states and the District of Columbia.
3. Capital maintains 55 airport facilities serving 81 cities and a total of 69 individual sales offices downtown throughout its system.
4. Capital employs 8000 persons and only about 17 per cent of them, pilots and hostesses, are actually engaged in the airborne operation. The balance are in ground support functions of one type or another.
5. Capital operates a total of 100 aircraft, including 58 jet-powered Viscounts which constitute the largest jet-powered commercial fleet in the world. Incidentally, we introduced jet power to American commercial aviation four years ago in 1955.
6. Capital flies approximately 180,000 aircraft miles per day. This is equivalent to seven times around the world every day and amounts to 65 million miles per year.
7. This year Capital will carry 4 million passengers a total of 1.7 billion passenger miles.

This recitation of facts about our size and geographical scope, as well as the volume of operation, provides you with a picture of the corporate machine which we must manage. We are not primarily concerned in this program with local station management. We have, of course, local operational and sales management in all communities which we serve. Our concern is with the central top-executive management at the company headquarters in Washington and with a program focusing on "management by exception."

The complexities of airline operation have multiplied. Demands for efficiency and quality by the public and our board of directors are loud and insistent. Our past operational procedures were found to be inadequate. This condition presents a real challenge. We are on test. We realize that tomorrow's success is wrought in today's performance.

If we have learned anything in our careers it is that there is nothing more important in business than an adequate supply of leadership talent. Sometimes we have fallen prey to the idea that the function of management is to train followers rather than leaders. It is really the function of management to train our junior executives to perform in an uncommon way. The story of successful business is the story of junior executives who, whatever their goals, were inspired to uncommon levels of accomplishment.

A sense of direction and strong leadership is a requirement for progress. This case study is in part designed to do just that—develop leadership.

RAYMOND G. LOCHIEL, senior vice president-finance and treasurer and a director of Capital Airlines, Inc., Washington, D. C., is a graduate of Temple University, School of Commerce, Philadelphia, Pa. He started his business career in public accounting with Haskins & Sells, New York. From 1929-1932, he specialized in aviation finance and consulting activities with Beard and Abney in the same city, before joining Pennsylvania Airlines, Pittsburgh, Pa., as comptroller. From 1934-1936 he was treasurer and comptroller, Pennsylvania Airlines Transport Company. He then joined Capital Airlines, Inc. (formerly Pennsylvania Central Airlines Corporation) where he was successively treasurer and comptroller (1936-1945); vice president and treasurer and comptroller (1945-1957); vice president-finance and treasurer (1957-1958); and finally in 1958 he assumed his present titles. He is a member of Controllers Institute of America and past president of the District of Columbia Control, a past national director from Region III and a member of the national Planning Committee of the Institute.

Another important initial objective was to find means of communicating information to top management in scope and timeliness adequate to permit evaluation of operations at that top-policy and operating level, to permit top-level corrective action to be taken currently and last, but not least, to demonstrate to all levels of supervision, both field and headquarters, that top management is in a position to see what is going on throughout the company currently and to do something about it.

This over-all objective has several subobjectives which are very important.

First, we emphasize management by exception. This is not a new concept but it is extremely important in achieving results with a minimum expenditure of time. We focus management attention on what is wrong or substandard and do not absorb their time or divert their thoughts from problems by recitations of operational aspects which are standard or above in quality.

Second, we emphasize that the program is not a mere statistical review but is designed to cover those substandard aspects about which something constructive can and must be done. To this end, departments are required to be prepared to explain their deficiencies and to describe the corrective action taken or to be taken.

Third, we lay greater emphasis on trends than we do on single-period results. This serves to eliminate short-run distortions and saves management's time by not consuming it in examination of matters which will correct themselves in a very short-range period.

In the following sections are related something of our past experience and the analytical steps we took which led us to the development of our present evaluation program.

STUART B. GOLDTHORPE, assistant vice president-finance and comptroller of Capital Airlines, received his education at Wharton School of Finance, University of Pennsylvania, where he majored in corporate finance, banking and accounting (1932-1936), and at the American Institute of Banking, Cleveland, Ohio (1937-1939). Prior to joining Capital Airlines in 1943, he was with the Central National Bank of Cleveland from 1936 to 1943. He also is a member of Controllers Institute of America.

GEORGE E. PARK is a graduate of Benjamin Franklin University, Washington, D. C., where he majored in accounting. From 1936-1942 he was employed by the U. S. Government, first as an accountant in the Navy Department and later as a registration analyst to the Securities and Exchange Commission. In 1942, he joined Capital as an accountant on military contract work; transferred to budget and forecasting activities at the close of World War II; and became director of Budgets and Forecasts in 1950 which position he held until he became director of Management Analysis in 1957.

JOHN H. SMITH attended George Washington University and Benjamin Franklin University, Washington, D. C., majoring in Accounting and Business Administration. From 1940-1941 he was with the U. S. War Department; from 1942-1944, he was accounting clerk, Capital Airlines; and from 1944-1946 he was with the U. S. Air Force. Returning to Capital in 1946, he advanced from accountant in the Cost Control and Analysis Section to chief cost accountant; and then to his present duties as assistant comptroller-Economic Controls in 1957. He is responsible for continued development of the Budget and Cost Control Programs at Capital.

S. B. GOLDTHORPE:

The transmission of information about current operations to top management is not a problem peculiar to Capital Airlines. It is a difficult problem for any corporation, particularly one which combines widely scattered operations with centralized top management. Over the years, we have sought to solve this problem through a variety of management, staff, committee or other kinds of meetings. We have tried daily, weekly, biweekly and monthly meetings. All such approaches failed to fully satisfy our needs for one or more reasons which include:

1. Failure to focus exclusively on the critical issues.
2. Potential and real danger of wandering completely from issues and developing "bull sessions."
3. Too time consuming.
4. Need for a published agenda which became a major project and a nuisance in itself.
5. Boredom and consequently ineffectiveness arising from a program designed primarily around verbal presentation.
6. Failure to cover all important aspects of operation due to excessive discussion of points covered.
7. Difficulty in securing immediate explanations and proposals for corrective action.

With this unsatisfactory experience, we set about, two years ago, to re-analyze the problem of providing an intelligence service for headquarters management. We asked ourselves five questions. The first question was:

Why does headquarters management need to evaluate operations currently?

The answers to that were:

1. Air transport is about as unstable an industry as there is and is subject to wide variances in profitability on a daily basis.
2. Far-flung geography of itself makes centralized management a serious problem. We had tried to decentralize top management years before and it had not answered our needs.
3. Our production equipment is moving about constantly and the quality of its production may vary in a wide range within periods as short as one day. The ability to measure this quality, system-wide, against one uniform standard is an urgent necessity.
4. Weather and air-traffic problems are constantly changing in degree of severity. Their impacts must be known to evaluate short-range financial and operating implications.
5. Airlines have an inherent capability to change volume of production in substantial amounts on rather short notice. We can do this and so can our competitors. Quick evaluation of the results of such changes is urgent.
6. Like all transportation, we deal with a highly perishable inventory of finished goods, in our case, a seat mile of transportation. For example, when a Viscount takes off, we are committed to manufacture 44 seat miles per airplane mile even though we have sold only one third or one half. Worst of all, we cannot put the unsold seat miles on a shelf for later use. Making a profit in a highly competitive industry, which has such economic characteristics together with government regulated prices, is difficult at best and requires that top policy-making management be currently abreast of sales results.

Our second question was:

What type of information does headquarters management need to evaluate its operations?

Our answers were:

1. It needs information about the status of the aircraft fleet and the volume and quality of the operation performed on a daily basis.

2. It needs summary data about sales and operating revenues on a daily basis.
3. It needs more detailed sales information by Market and Sales point on a weekly basis.
4. It needs detailed analysis of the financial results of its operations monthly. This must include unit costs and productivity of the facility, including employes, in order to evaluate managerial controls.

Our third question was:

What will we expect to achieve from management?

Our answers were:

1. We expect each member of top management to be continuously and sufficiently informed about all current activity so as to have a clear evaluation of the company's current success in performing its functions of service, sales and profit.
2. We expect each member of top management to be able to focus with ease on those problem areas which are a general responsibility plus those with which he has a direct personal responsibility.
3. We expect each member of top management to be able to achieve the first two requirements with a bare minimum of time devoted to the exercise and in such a way that he need not ask questions in order to achieve clarity.

If we were to fulfill the needs we had outlined, our fourth question was:

What kind of program would accomplish these results?

Our answers to this were:

1. It must combine minimum scope with maximum speed of presentation.
2. Facts and reports must be so presented as to communicate themselves clearly.
3. It must be completely objective and not a propaganda device.
4. It must be so designed as to maintain management interest.
5. It must focus primary attention on trouble, again, management by exception.

Our fifth question was:

What information does Capital Airlines have available to conduct such a program?

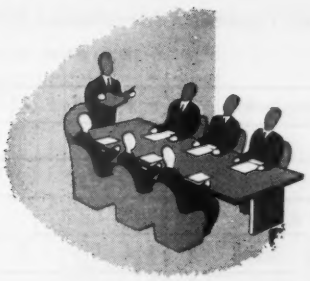
The answer to this was achieved by making a company-wide inventory of the types of data available, their frequency and their currency. In this aspect we were fortunate. Communications, on an almost instantaneous basis, are the lifeblood of airline operation and we found that we had virtually all the information we believed essential to our program flowing automatically through the company's communications system, in one form or another, to some headquarters function which had a limited but nonetheless important use for it.

Accordingly, we had reached a point where we had three remaining problems to solve:

1. Convince top management that such a program was sound and desirable.
2. Select and concentrate the information we wanted.
3. Determine our method of data presentation.

The first step was easy. We were fortunate in having a president who felt urgently in need of an intelligence service to headquarters management and who had had wide experience with such programs in the military service. Accordingly, our efforts received the strongest kind of top-management support in development.

The second step, to select and concentrate the data, was more difficult but again our communications system had



been supplying certain basic statistical data for many years. We found that we could accomplish the job of selection and concentration of data by reorganizing all statistical input throughout the company into one central statistical service group. This group receives all pertinent data by teletype and the data are automatically punched into IBM cards and processed by machine accounting. We found that a part of the data so processed was not sufficiently current due to the necessary sequence of processing in machine accounting. Accordingly, arrangements had to be made for a speed-up in handling of certain selected information which requires duplicate handling in some instances. However, the cost of this was not significant.

The concentration of data input to the headquarters in our central statistics bureau left us with the remaining problems of selecting what we wanted to show management. Interpretation was solved by establishing a group in the Comptroller's Division of the Finance Department which we designated as "Management Analysis." It is a small group of experienced personnel, numbering four, drawn from our Cost, Budgeting and Accounting functions.

Coincidentally, we concluded that the method of presentation which would best serve our objectives was to establish a chart program and to establish a series of periodic presentations to headquarters management which we called by the rather obvious name of "briefing."

Although the content and form of presentation have gone through various stages of development and refinement, and continuous re-evaluation, we have found our original schedule of briefings still serves the purpose very well.

Our schedule comprises:

1. Daily briefing—occurs every weekday morning from 8:45 a.m. to 9:00 a.m. Monday is usually 10 minutes longer because of picking up the week end.
2. Weekly briefing—occurs every Thursday, lasts about 30 minutes to 45 minutes, immediately after the daily briefing.
3. Monthly briefing—occurs on the last Thursday of each month and always after weekly briefing and may take an additional hour to an hour and a half. Thus, once a month we will have one continuous briefing session lasting from 8:45 a.m. to 11:30 a.m.

Preliminary to presenting a sample of our briefing as it is presently constituted, let us say that in the original development period, our charts were prepared on large sheets of cardboard and presented on an easel. This was to us, the quickest way to get some concrete program under way. It was soon evident however, that this presentation had limitations. These were, first, that our ability to illustrate problems was limited by the fact that color could not be used easily; second, the physical effort necessary to prepare such charts inhibited the development of the program; and third, the charts presented a visibility problem in a group of 25 to 30 persons.

Our answer to these deficiencies was to use transparent

CHART 1 EQUIPMENT STATUS February 26, 1959

	V - 812		V - 745		L - 049		DC - 4		DC - 3		TOTAL	
	SCH	ACT	SCH	ACT	SCH	ACT	SCH	ACT	SCH	ACT	SCH	ACT
SCHEDULED MAINTENANCE	-	-	6	6	3	3	1	(2)	2	2	12	(13)
SPARES	-	-	2	(1)	-	(1)	-	-	-	-	2	2
TRAINING	-	-	(1)	(1)	(1)	(-)	1	(-)	1	1	2	(1)
OTHER - OUT OF SERVICE	-	-	-	(1)	1	(-)	-	-	-	-	1	1
TOTAL OUT OF SERVICE	-	-	8	8	4	4	2	2	3	3	17	17
AVAILABLE FOR SERVICE	2	2	50	50	7	7	10	10	15	15	84	84
TOTAL FLEET	2		58		11		12		18		101	

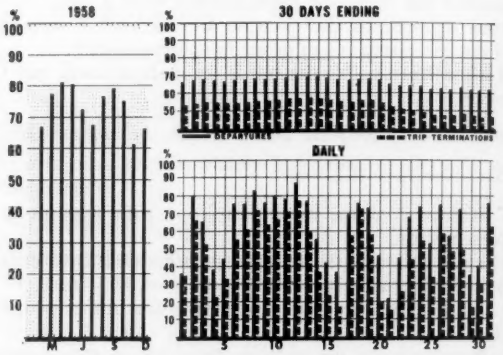
CHART 2 STATION OPERATIONS SUMMARY

JANUARY 1959	LAST YR	LAST MO	LAST WK	STD	4	5	6	7	8	9	10	7 DAY AVG
Controllable Delays - over 15 minutes	29	34	29	20	(68)	(75)	(32)	(33)	20	25	18	
Controllable Delays - under 15 minutes	53	60	45		84	72	59	45	41	52	31	
Uncontrollable Delays - over 15 minutes	32	35	47		115	95	30	25	18	24	13	
Uncontrollable Delays - under 15 minutes	22	18	22		44	26	25	14	14	6	9	
Total Delays	136	147	143		311	268	146	117	93	107	71	
Cancellations	52	47	97		44	52	23	15	27	26	25	
Total Interruptions	188	194	240		355	320	169	132	120	133	96	
CANCELLATIONS												
Weather	26	25	54		14	-	3	1	12	4	3	
Mechanical	8	3	2	4	4	3	2	2	1	2	4	
Ship Distribution	11	15	20		16	35	11	8	5	15	14	
– Mechanical		6	4	3	(10)	(24)	-	(6)	2	(10)	(10)	
– Late Check		-	-	7	3	6	-	1	-	-	-	
Other	7	4	21		10	14	7	4	9	5	4	
Total	52	47	97		44	52	23	15	27	26	25	

CHART 3 STATION DELAYS—over 15 minutes

JANUARY 1959	LAST YR	LAST MO	LAST WK	STD	4	5	6	7	8	9	10	7 DAY AVG
Mechanical – V-745	13	10	7	7	(16)	(25)	(8)	(17)	6	(10)	(12)	
L-049	3	2	3	2	(4)	(3)	2	2	-	1	-	
DC-4	3	2	3	2	(3)	(7)	2	(3)	(4)	2	(3)	
DC-3	3	3	1	2	(3)	(4)	2	(4)	2	1	1	
Total Mechanical	20	16	13	13	(26)	(39)	(14)	(24)	12	(14)	(16)	
Passenger Handling	1	4	5	1	(17)	(8)	(4)	-	(3)	(2)	1	
Connecting Psgrs.	2	4	3	2	(6)	(3)	2	(3)	(3)	2	-	
Operations	1	4	3	1	(3)	(9)	(7)	(2)	-	(4)	-	
Servicing	3	5	2	2	(12)	(10)	(3)	1	1	2	1	
Crew	2	1	3	1	(4)	(6)	(2)	1	1	1	-	
Sub-total	29	34	29	20	(63)	(75)	(32)	(33)	20	(25)	18	
Equipment	23	20	17		65	64	28	21	13	23	9	
Mechanical		2	1	4	4	1	1	1	-	4	2	
Late Check		1	-	9	2	7	7	1	-	2	1	
Weather and ATC	9	15	29		50	31	2	4	5	1	4	
Total	61	69	75		183	170	62	58	38	49	31	

CHART 4 QUALITY PERFORMANCE January 1959



slides and a vue-graph projector and we believe this has solved all our problems of method of presentation.

We are now going to show you our briefing which we believe, for Capital Airlines, accomplishes our objective of evaluation of operations by management. Obviously, space does not permit, nor is it necessary, that we take you through a complete daily, weekly and monthly briefing session, rather, we have selected from each, charts which will give you a cross-section view of the content.

Bear three points in mind as these charts are shown:

First, they are intended to tell what happened as briefly as possible. Why we were bad or good is not the function of the presentation. It is designed to show facts and raise questions which must thereafter be answered by the individual or individuals responsible for the phase of operations being shown.

Second, they are not intended to be a continuous parade of our good points. Primarily, they are to focus attention on the failures. A particular point may be shown at one meeting and not at the next. Its absence is indicative that it has been corrected and does not need further immediate attention.

Third, to the maximum extent feasible, we have set a standard of minimum satisfactory performance on each chart presented. This is done by agreement with management including the affected department heads and enables them to tell at a quick glance the variance from the minimum standards. Now let us turn to a sample of our daily briefing. This is heavily weighted on operations with minimum information on revenue production and sales information.

Chart 1 is our equipment status report. This tells management quickly whether it has an equipment problem as of 8:00 a.m. on the day of the briefing. The line, next to the last, captioned "Available for Service" is the key. If the actual aircraft total the same number, by type, as the schedule aircraft, then there is no immediate management problem on numbers of aircraft. If, however, the total available is in balance but there are offsetting variances within the types, a problem of varying degrees may exist and the Operations Department must indicate how they propose to cover the schedules. Further, the details of the "Total Out-of-Service" aircraft may or may not present problems of meeting schedules later in the day. Maintenance is obligated to point out any unusual out-of-service situations which may give rise to later difficulties. These will usually show up opposite the caption "Other Out-of-Service." Management is primarily interested in the actions being taken to restore the equipment to a proper balance.

Chart 2 is a summary of station operations for the preceding day. The top section divides station delays into those over 15 minutes and those under 15 minutes and further, subdivides these into "controllable" and "uncontrollable" categories. Controllable delays are those which management regards as a breakdown in their operation at some point. Uncontrollable delays are those which arise from circumstances beyond management control.

You will note that delays over 15 minutes on the last day shown, the first and third lines, total 31, 18 plus 13. *Chart 3*, captioned "Station Delays" takes all 31 of these delays over 15 minutes and breaks them down into causes, whether controllable or uncontrollable. For example, of the 18 controllable delays over 15 minutes, 16 were caused by mechan-

CHART 5 REVENUE BUDGET COMPARISON January 1959

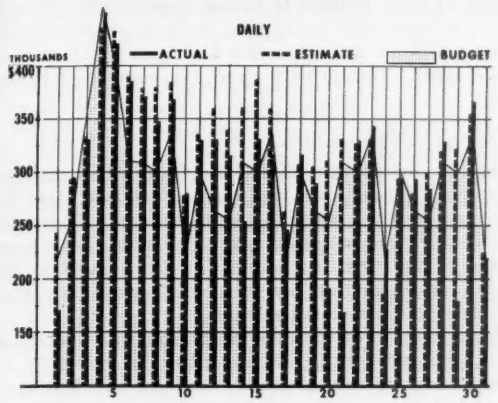


CHART 6 REVENUE VARIANCE January 1959

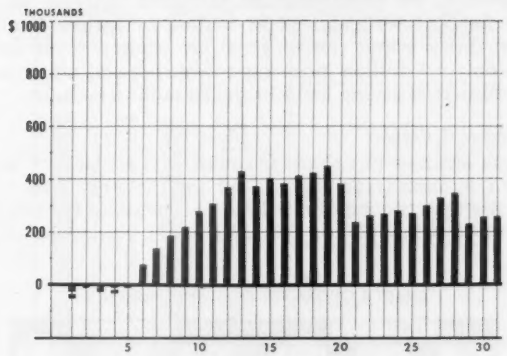
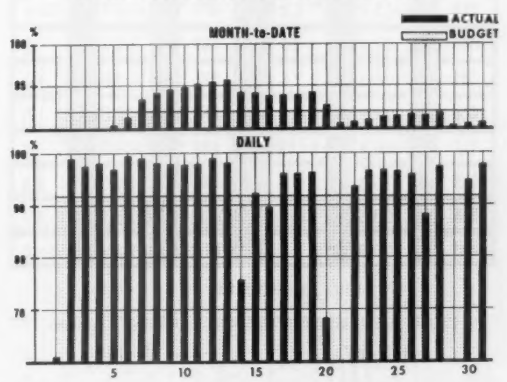


CHART 7 COMPLETION FACTOR January 1959



ical problems. Weather and air traffic caused four of the 13 noncontrollable delays. Whenever figures in parentheses are shown, this is a flag that a standard has been exceeded and management calls for an immediate explanation or for one to be supplied later in the day as well as a suggested course of corrective action.

Chart 4 is called "Quality Performance." This is designed to show, in the solid bar, the per cent of departures within 15 minutes of schedule, and, in the broken bar, percentage of trip terminations within 15 minutes of schedule. The shaded background establishes the standard for January. In other words, in January, a poor weather month, we regard 80 per cent of departures and terminations within 15 minutes of printed schedule as minimum performance. The section at the left shows the 1958 monthly record. The top-right section shows a 30-day moving average progressing through January 1959, while the bottom right shows the individual day's performance for the month. This January was particularly poor from a weather viewpoint and the bottom-right section shows the impact of weather and attendant traffic problems at various points in the month. You need not be an experienced airline man to see at a glance that we had a very unsatisfactory reliability in this past January.

Chart 5 is called the "Revenue Budget Comparison" and is somewhat more complex since it is comparing three different fixes. First, the shaded background represents the sales budget for January. You will note it is irregular at the top to reflect variations in the level of revenue budgeted from day to day. We have a substantial irregularity in volume of sales among the days of the week and this is built into the budget rather than to show a flat-line daily average. The broken bar then is posted based upon advance reservation data converted to an estimate for the day and always kept three days ahead at each briefing. The solid bar is posted after each day's actual revenue is calculated and normally shown on the morning following our midnight closing of each day. Obviously, we like to see the solid broken bars over the top of the shaded background. When they are below it we are in trouble on sales although this may be due to weather in great part in a winter month. Regardless of cause, it is a flag to management that budgeted operating results are not going to be met and offsetting economies must be examined and taken where possible. If the broken bar, advance estimate, consistently exceeds the actual bar it is a signal that something is going awry between the time estimates are made, three days ahead, and business is actually carried. Sometimes weather causes this, but it is a danger signal that we may not be getting as many reservations in the last three days as we formerly experienced or that we are running a higher-than-expected ratio of "no shows" passengers with confirmed reservations who do not appear for flight time or cancel in advance. When the solid bar exceeds actual revenue consistently exceeds the estimate, we generally recheck our estimating system. While this chart records our adherence to sales budget, day by day, it does not give us accumulative feel of where we stand on sales.

Accordingly, we have the "Revenue Variance," *Chart 6*. This shows, cumulatively, the total plus or minus variance from sales budget as the month progresses and is a conversion of the solid bar versus the shaded background on the previous chart. You will note that, while we got as much as $450,000 or roughly 5 per cent ahead on sales on the 19th of January, this highly favorable situation did not hold and we wound up the month only $250,000 ahead of our original budget prior to adjustment for variances in volume of service.

G. E. PARK:

Chart 7 is labeled "Completion Factor," which is perhaps a somewhat obscure caption to one not experienced in our business. It means this, it is the percentage of revenue miles scheduled to be flown which are actually performed. Thus, if you schedule 5 million miles in a month and due to weather can fly only 4.5 million miles your completion factor is 95 per cent. This means that 5 per cent of the production you are geared to provide was never produced. This is an exceedingly important statistic to top management and to our economic control people, since it has a great impact on unit costs. In budgeting our costs of operation we determine, based upon many years of operation, a completion factor for each month and our costs, in most instances, are budgeted to perform the level of activity arising from application of this factor to the published schedule. In some cases we must budget functions to provide for 100 per cent comple-

tion in every month. In any case, if we fall below expected completion, we experience an automatic increase in unit costs. Suppose we budgeted $8 million to operate 5 million miles; this is a unit cost of $1.60 per plane mile. If we operate only 4.7 million miles due to weather and other causes, the prospect of saving much of the $8 million is slight.

Why is it slight?

Look again at this chart. On most days in January we exceeded budgeted completion, but on the first, 10th, 14th, 21st and 29th, the bottom fell out of operation. On the 29th, they were below 60 per cent and didn't even show on the chart. The prospects of saving substantial sums of cost in isolated 24-hour periods is almost nonexistent. Thus an $8 million expense level converting to $1.60 per plane mile unit cost at 5 million miles becomes $1.70 per plane mile on 4.7 million miles. This grossly alters the company's break-even point.

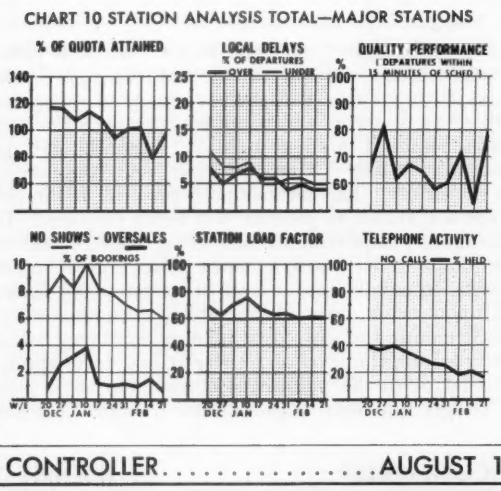
CHART 8 QUOTA PER CENT AND VARIANCE

	TARGET: 100.0	(000)		PERIOD: Jan. 1-31	(000)
ATL	101.3%	$ 5	MSP	101.0%	$ 3
BAL	90.6	8	MSY	157.8	58
BHM	123.1	22	NYC	122.7	301
BUF	92.8	30	ORF	96.2	7
CHI	106.5	76	PHL	102.6	10
CLE	101.9	11	PIT	102.2	16
YIP	100.4	3	ROC	104.0	8
GRR	76.3	33	DCA	89.0	98
MIA	98.6	6	OTHER	96.1	37
MKE	109.9	22	TOTAL	103.5%	$316

CHART 9 QUALITY PERFORMANCE—within 15 minutes

	NYC · YIP						YIP · NYC				
Trip	%	%	%	%	%	Trip	%	%	%	%	%
61	71	71	71	43	71	60	71	71	100	71	57
63	71	86	71	86	71	62	86	71	86	71	86
65	75	67	67	33	67	64	75	86	57	71	71
69	43	57	57	57	57	68	100	67	83	50	83
121	86	100	86	71	86	120	86	86	86	71	57
125	57	71	86	71	43	122	80	57	86	71	86
127	80	57	86	57	57	124	86	86	86	71	86
V 129	57	57	71	43	29	126	100	86	71	57	86
221	86	86	86	71	86	220	86	86	100	71	86
225	86	100	100	86	71	V 226	86	100	57	71	86
229	86	57	86	86	71	228	43	100	71	86	71
821	86	71	86	43	71	820	75	100	100	67	83
823	75	83	100	67	100	822	71	100	71	71	71
TOTAL	73	74	81	63	67	TOTAL	80	84	81	70	78
	1/3	1/10	1/17	1/24	1/31		1/3	1/10	1/17	1/24	1/31

CHART 10 STATION ANALYSIS TOTAL—MAJOR STATIONS



What can be done about it?

Nothing, on an immediate basis, but, when management is watching January unfold, it is making its plans for the succeeding months. Knowing that January, in our example, is going to exceed budgeted unit costs establishes a target for offsetting unit cost economies in later months through schedule and operation revisions which must be planned 30 to 90 days before accomplishment.

The next series of charts is taken from our weekly briefing which, you may recall, we described as primarily a sales status report. By way of background for our first chart, we should tell you that the Marketing Department sets a sales quota for each station for each month. This is always somewhat higher than the operating budget for sales. Management Analysis breaks this quota down into weekly segments based upon past experience for the month involved and we measure station performance, week by week, against this sales quota. For purposes of our presentation, we show in detail only the 18 largest stations. These contribute 89 per cent of our total sales while the other 35 contribute only 11 per cent individually, the contribution of the smaller stations to total sales is insufficient to make top-management attention necessary and these are watched by the Marketing staff.

Chart 8, captioned "Quota Per Cent and Variance," shows the 18 top stations in detail with the others lumped in one line. This chart is for the full month of January and opposite each station's code name is the per cent by which it varied from quota and the thousands of dollars of the variance. Minus or unfavorable variances are shown in parentheses to designate a problem area.

When this chart is shown on a weekly basis, top management is in a current position to demand reasons for sales lags and Marketing is in a position to know which stations require investigation. This investigation of all phases of the delinquent station's sales effort gets under way immediately. It may take the form of headquarters staff assistance to the local sales organization through special calls on customers, revision of advertising schedules, inspection of adherence to reservations and ticketing service standards, checking for abnormal local market conditions or perhaps all these. This does not mean that a correction can always be made. Sometimes the failure is due to an unpopular schedule pattern versus that of a competitor and time is required to revise it. The point is, however, that such revision process doesn't start until failure is evident and the earlier this is discovered the shorter the period of deficiency is likely to be.

Another area of concern to management is the quality of our performance in selected major markets. *Chart 9* measures per cent of "on-time" operation within 15 minutes of schedule in the New York-Detroit nonstop market by weeks in January. You will note the record eastbound is generally much better than westbound by weeks. This is because the combination of bad weather in January with New York's high density of traffic makes on-time operation more difficult in New York departures. This chart is watched for consistently poor performance in the market as a whole or in individual trips. When this occurs an investigating team is put to work on the problem immediately. They may find conflicting schedules, a trip consistently holding for connections from another trip which is chronically late, improper scheduling of ground-handling personnel at peak departure hours or a variety of other reasons. They are obligated, however, to come up with an answer which will improve the record.

Chart 10 requires some background explanation. We have

spent a great deal of effort trying to put on one chart a selected group of significant factors which would permit a quick over-all appraisal. The chart captioned "Station Analysis" is a consolidation of all 18 major stations. Individual charts, in identical form, are prepared on each of the 18 stations which we said earlier contribute 89 per cent of our sales. The chart is in six segments, by weeks, the top-left segment shows the per cent of sales quota attained by weeks. The top-center segment records locally occurring delays, as distinguished from delays occurring because of delayed arrival, and separates them between "over" and "under" 15 minutes. The top-right segment shows the per cent of departures within 15 minutes of schedule. The lower-left segment shows two important factors: Namely, "no-shows" and "oversales." A no-show is a passenger who books space and then fails to cancel or use it. This is a severe economic problem since we do not become aware of a no-show until departure time and usually cannot resell the seat on such short notice. You will note that the per cent of no-shows got as high as 10 per cent of total bookings in January and then declined to 6 per cent by late February. Our only defense against this practice is to recheck our bookings the day of a flight or the day before, and this too is expensive in terms of added communications and personnel costs. When a station shows a high level of no-shows or an unfavorable trend, we put on a program of prechecking flights to reduce the incidence back to a level where it is cheaper to accept some no-shows.

Oversales are equally of concern to us and are indicative of inaccuracy among our reservations personnel. The oversale is, of course, a situation where we sell more seats than are available. It is embarrassing to us and to the oversold passenger and it frequently is a serious inconvenience to the latter. It certainly hurts our prospects of future business from the customer who experiences it. The human element in reservations cannot be expected to work with perfect accuracy and occasional oversales are going to happen. However, management is interested in looking at the frequency and the trend. If either appears unacceptable, an investigation of the offending station is undertaken and continued until the margin of error is reduced to acceptable minimums.

The lower-middle segment shows the total passenger load factor departing the station, including both local and through passengers, and it is measured against the budgeted load factor. The lower-right segment shows the per cent of telephone calls received which are held by the Board before being put through to a reservations agent, no matter how short the hold may be. The chart you see does not show total telephone calls received, it is a summary of the 18 major stations and total calls are shown only on the individual station analyses. A rising or declining trend in total calls is a tool in determining manpower requirements where the trend is concluded to be of some duration.

With respect to hold calls, we accept a standard of 15 per cent as being satisfactory. You may ask why shouldn't it be zero. The reason is that calls do not come into our switchboard on an even basis. There are peaks within days, weeks and months. We cannot afford to staff reservations to a point where hold calls would not occur and the 15 per cent is a balance between cost and service. Unacceptable hold call frequencies in any station are immediately investigated and corrective action, which may require adding personnel or shifting the working hours, is taken.

You will note the shaded background in five of these segments. Its purpose is to make quick evaluation easier. Whenever a chart line is in the shaded area it is indicative of a below-standard condition, except for the line on total telephone calls. Thus, at a glance, you can get an impression of a station's general status for any week, without having to minutely examine each factor unless the over-all impression is poor.

CHART 11 COMPARATIVE FINANCIAL RESULTS January 1959

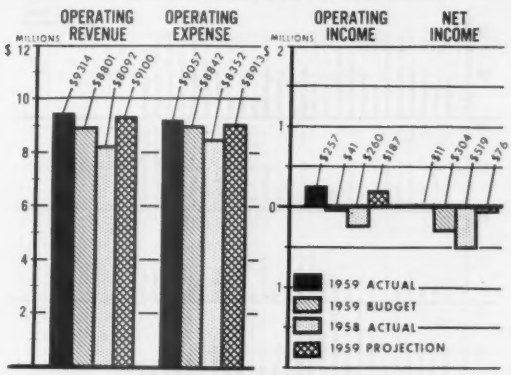
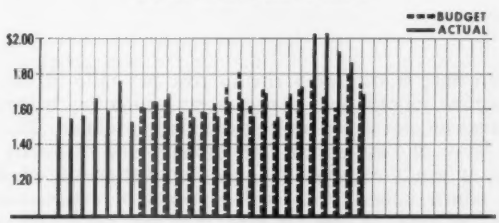
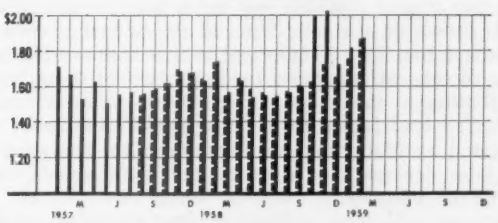


CHART 12 REVENUE PER MILE



EXPENSE PER MILE



S. B. GOLDTHORPE:

The next and last group of charts we will show is the monthly group. These are primarily designed to show financial results of operations, certain significant unit costs and employe productivity.

Chart 11 is our profit and loss statement for January.

You will note that we budgeted January 1959 for a $41,000 operating loss and $304,000 net loss. Because of low seasonal sales and winter weather we do not normally anticipate a profit in January, however, you will note that the month was far better than expected. Sales exceeded the final adjusted budget by $512,000 and the additional sales caused an excess of $115,000 over the expense budget. Accordingly, we had an operating profit of $257,000 instead of a $41,000 loss and a net profit of $11,000 versus a budgeted loss of $304,000. This information is final and after the fact, but it tells at a quick glance how we measured up against our targets and the same period a year ago.

J. H. SMITH:

Chart 12 gives recent history of revenue and expense per plane mile (solid bars), compared with the budget (broken bars). The October and November 1958 bars are grossly distorted due to our strike during that period and the very low level of operation. Obviously, the matter of greatest

CHART 13 LOAD FACTORS

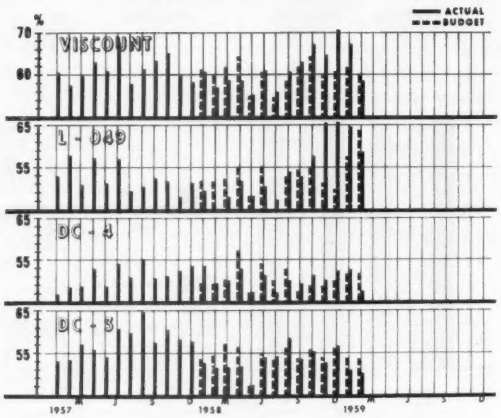


CHART 14 FLYING OPERATIONS—cost per hour flown

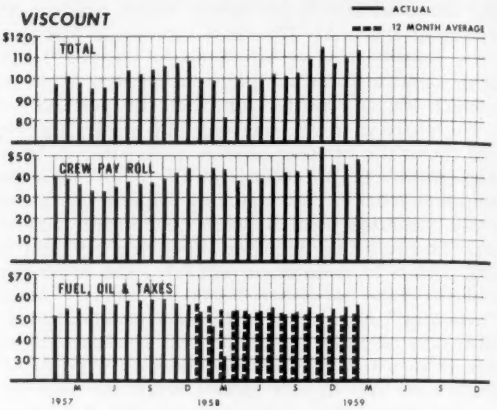
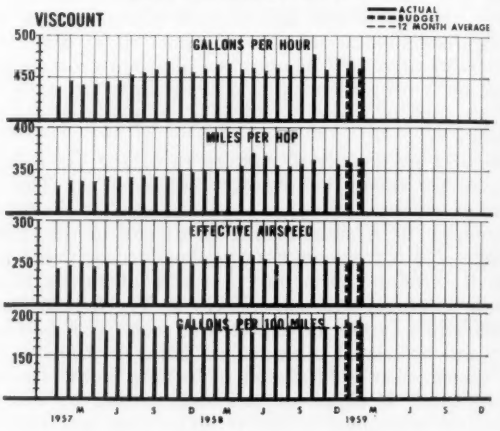


CHART 15 FUEL CONSUMPTION



concern here is the rapid rise in cost per mile in the past six to nine months and our greatest efforts are being concentrated on this aspect of our economic problem. The very high level of cost shown for January and February was largely a result of unusually low completion of scheduled miles which inflated the fixed elements of expense as expressed in terms of cost per mile. You will recall our earlier comments on the impact of low completion on unit costs.

Chart 13 is our load factor by equipment type. Load factor is the per cent of available seat miles that are sold. The actual is shown on the solid bar and the budget is shown on the broken bar. This is important in that it shows Marketing where to concentrate efforts for improvement of each type's contribution to the whole. Every failure to meet carefully established load factor goals for a type of equipment is investigated by Marketing and Operations to determine if it is a sales deficiency or a poor operational record that is causing the difficulty.

Next we will show a series of four charts which break down significant elements of the direct costs of flying our aircraft. The series we will show applies to the Viscount and identical series are prepared for other aircraft types.

The first of these, *Chart 14,* shows the total direct flying operations cost per hour flown and this is thereafter broken down into its two principal elements. The solid bars are monthly figures while the broken line is a 12-month moving average. The need for showing the components is evident when you note that the total cost trend line has remained fairly steady at $100.00 per hour while pilots pay has steadily increased from $37.50 to $42.50. This latter increase has been offset in the total cost by a declining trend in fuel costs from $55.50 to $50.50 per hour.

You will note that fuel costs after a long decline, and therefore total costs, show a very recent tendency upward. This was first evident in February and started an extensive engineering analysis of fuel consumption and prices. *Chart 15,* which is an analysis of fuel consumption, is part of the basic information management watches in controlling fuel cost. The engineering theory is that if you fly the airplane faster you will increase the fuel consumed per hour, but will secure greater speed and thus reduce consumption per mile flown. If this happens you have no greater real fuel cost and you accomplish some savings in pilots pay, based on hours flown, and through reducing hours flown while covering the same mileage, you will also reduce maintenance expense on those items whose overhaul life is measured in hours flown. In other words, you will accomplish your scheduled mileage in less hours and therefore, incur less maintenance expense. If and when this works, there is no question of its economy.

Let us look at recent history on this fuel consumption chart and see if it is working for us on this occasion. First, fuel consumption per hour is up in recent months by comparison with the same period last year. It should follow that speed is also up, however, it isn't. Last winter average speed was clearly above 250 mph. This winter it is hovering on the 250 mph mark. The bottom segment shows that we have not reduced gallons per 100 miles but actually increased them over last year. Therefore, we have not achieved an economy offset to increased hourly consumption and cost through greater speed and reduced consumption per 100 miles. Our real cost of fuel has increased so that increased hourly consumption represents an added expense rather than an economy. This became clear during the past winter and enabled management to pin down the engineers and force a re-evaluation of the program to increase speed by increasing hourly consumption.

Chart 16, bearing on the issue, is the one captioned "Fuel Cost." It will be noted that there is no perceptible increase in the basic price of fuel and taxes from winter 1958 to winter 1959, however, the cost of fuel in cents per mile flown is decidedly up by comparison with last winter. This confirms the conclusion of the previous chart that the increasing upward trend of fuel costs is in the consumption rather than in the basic price.

CHART 16 FUEL COST

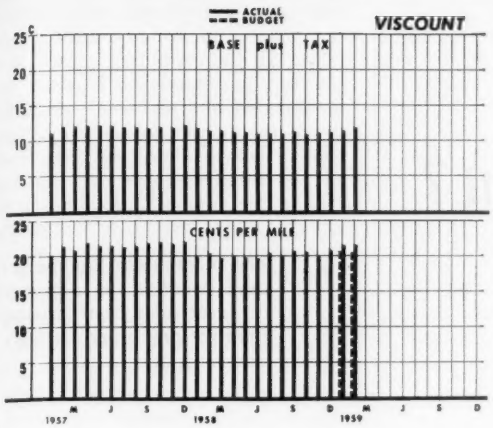
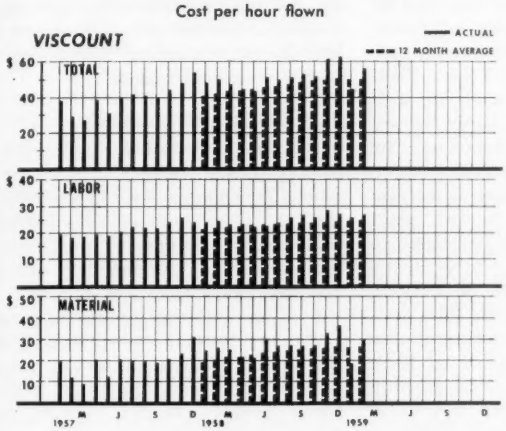


CHART 17 FLIGHT EQUIPMENT MAINTENANCE

Cost per hour flown

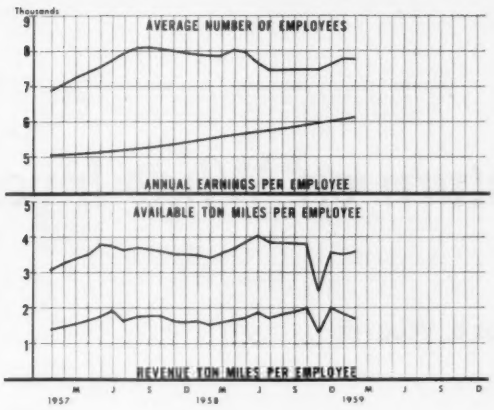


The other major element of direct cost is maintenance and this, displayed in *Chart 17* captioned "Flight Equipment Maintenance," is expressed in terms of cost per hour flown. The long-term trend in maintenance has been upward as shown in the "total" segment. Both labor and material have trended upwards; however, the uptrend is more pronounced in material.

This uptrend in maintenance cost is not alarming or unexpected at this point since the Viscount fleet is relatively new and in the early periods of operating an aircraft, the costs are lower because it is new and requires fewer parts to be replaced. Further, certain scheduled overhauls are not performed until as many as 2500 flying hours have elapsed. Thus, until all Viscounts have reached a full cycle of overhaul, the maintenance cost per mile has not reached its natural level. We estimate that the probable level on the Viscount is about $50 per hour flown. Accordingly, it is important that management watch this chart closely from now on, since we reached $50 per hour this past winter. Except for short-run month-to-month variations, the uptrend should level off in this area. If it does not, it will demand immediate management attention. Special analyses of labor and material are already in process to save time in the event a danger signal is raised on this element of cost in the coming month.

As was previously pointed out, similar charts are prepared for each type of equipment and watched closely for unfavorable trends which can develop independently in one type of aircraft without affecting any other type.

CHART 18 EMPLOYE PRODUCTIVITY SYSTEM



S. B. GOLDTHORPE:

Chart 18 is captioned "Employe Productivity" and while this particular chart covers all employes, it is supported by a series of charts covering employes segregated by individual function. Each group is measured on that particular work standard which is most appropriate. Since payroll is 46 per cent of our total operating expense and 93 per cent of our personnel are unionized, this is our most critical control area. We cannot arrest the rising trend in wage rates which is characteristic of the general economy and which has been more severe in its impact on our industry than the average. Our wage rates have gone up about 12 per cent per year over the past five years. Neither do we have the right to raise the price of our product, as an industry, when it is required to offset wage and price increases. Our industry must apply for rate increases to the Civil Aeronautics Board, go through a long hearing, and even then we may be turned down. As you may know we have been engaged in the procedural steps necessary to secure a rate increase since 1957 and the matter is still not settled. In 1957, our industry was agreed that a 15 per cent to 20 per cent increase in rates was essential. We have been allowed interim increases during the period of this hearing, averaging 7.5 per cent in February 1958 and 4 per cent in October 1958. These are completely inadequate and whether we will get more may not be known for months.

In this climate of an inflationary wage level, almost completely unionized personnel, and a price structure that we cannot control, employe productivity is of overwhelming importance to our management. The top segment of this chart shows the average number of personnel per month and the average annual wage by month. The bottom section shows the available ton miles produced per employe and the revenue ton miles produced per employe. An available ton mile is a ton of revenue traffic moving one mile. The first is a measure of productivity based upon gross production while the second is a measure based upon the production we have sold. While we like to see an upward trend in both, we are more concerned about the revenue ton miles per employe since these measure employe units of sold production.

To illustrate the serious economic problem we have in this area, let us look at the top line. You will note the decline in personnel in 1958 which resulted from our efforts to offset wage increases. At February 1959 we are at 7,755

(Continued on page 388)

Return on What Investment?

The incremental approach is used because the arguments in its favor have been stronger than for any other methods

James B. Weaver

MY REGULAR DUTY is in economic evaluation. We try to advise the company as to the profitability of the capital expenditures proposed to it so that the company can continue to make money for its stockholders. We, therefore, provide data to assist management in making decisions concerning proposed investments in plants or equipment.

Accounting data is very useful in this work. One major function of accounting is to prepare accurate records of past expenditures, records which can be used in reporting to stockholders and to the Government. These records can also be used by management to assist in certain decisions concerning the future, based on a knowledge of the past.

For many purposes, we in Economic Evaluation can sponge on this generous supply of information so obtained by our accountants. Many elements of cost can best be estimated directly from such data. Raw materials, labor, and utilities are generally charged to products on accounting cost sheets by a direct logical method which can be used without change in estimating corresponding costs on similar installations proposed for the future. Maintenance cost records are of great value in estimating how much may be spent in repairing similar equipment not yet installed.

For costs which are less directly chargeable to a given product, or a given piece of equipment, the allocations made by an accountant for cost purposes may not be so useful in estimating costs of future plants. They must be studied with care and used only when applicable. Plant overheads, for instance, consist of such costs as depreciation on the change houses, and the salaries of the watchmen and the plant manager. These costs tend to creep upward with time, but the rate of increase is not necessarily related to each plant expansion. They can hardly be related to installation of any given new unit on the plant. Such overhead costs on existing plants can be used to estimate total costs which may occur on a completely new plant. However, the allocation of these costs to a given product at an existing plant cannot usually be used directly in estimating the costs of an additional small part of a large plant. The new product will, like all associated products, receive some allocation of these overhead costs on the accountant's records, but such allocation to the new product probably doesn't represent a real increase in cost. More often it represents a reduction in the overhead charge to each of the other products made at the plant.

Nevertheless, such cost data as are provided by accounting records are invaluable in our evaluation of proposed plants and equipment. It is certainly our best source of data. While we admit to stretching and bending accounting data once in a while to suit our own purposes, we need and do use accounting information constantly——in our fashion.

RETURN ON INVESTMENT

Return on investment is probably the most common method of reaching decisions concerning new investments. The du Pont chart room revolves around the final answer of return on investment, and their method of evaluation of new projects involves forecasts of this ratio. The use of the concept represents a sort of "efficiency formula" which tries to relate the annual profits of a venture (output) to the investment tied up in producing those profits (input). While various forms of the ratio are used, they all try to indicate the per cent of an investment that is returned each year to the investor in the form of true cash income after all real costs. There is fairly general agreement that a formula of this type is a proper basis for appraising, comparing and choosing new investments.

Accounting records can be used to determine the numerator, the income, in this fraction of income over investment. *But what about the denominator—the investment?* Many pages could be spent discussing working capital. However, the remainder of this paper will consider fixed investment only.

When a new fixed investment is made at a completely new plant site and a group of balanced facilities are installed (process equipment, auxiliaries, and administrative buildings) which are designed to make next year's expected sales and no more, it is quite clear what fixed investment should be used as the denominator. However, most real situations are more complicated. Consider the addition of a good sized investment at a chemical plant which is already largely depreciated. Several pieces of equipment and buildings already at the plant are to be utilized as part of the new installation. Not only change

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houses and the administration building, but excess steam capacity and some processing facilities installed for another purpose will play a part in reaping the profits to be made. Furthermore, one of the chemical raw materials is to be made on the side in a new ready-made plant. It will be somewhat oversized for the present installation but was purchased at the smallest available, standard size to save design costs. The company expects to put the excess production capacity to use with other investments projected for the more distant future.

Now, what investment should be the denominator for the efficiency equation on recovery of our investment?

Should some amount be added to the new investment required so that the new product will "pay for its share" of the available excess capacity of existing units at the plant?

If so, how much should be added?

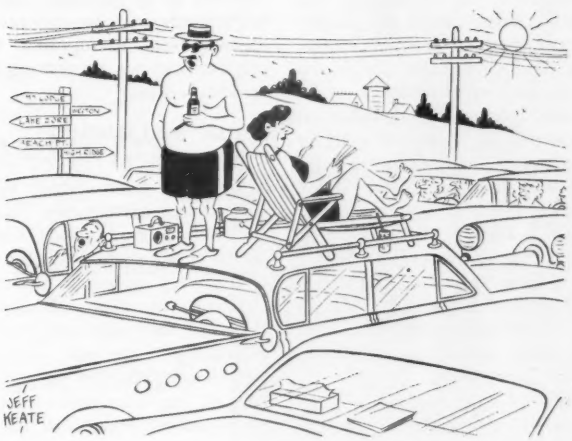
The engineering economists generally say that no consideration of existing facilities is needed, since the excess capacity represents essentially a "sunk cost." The only things relevant to the decision, they say, are the new cash flows which can be brought into the company by the new investment. These people say that existing capacity should be charged in at no cost, in order to make the promptest economic use of the idle facilities.

ECONOMIC MEASURE OF PERFORMANCE

We might assume that some measure of existing value should be considered so that new products can support their fair share of all present investment. What we want to determine is: *How should the existing investment be valued?*

Perhaps you would say at this point, *"Why come to the accountants?"* First, the cost records accountants keep are useful for other purposes besides reporting, and we would hope to use them here. Second, frequent articles have appeared in the accounting literature on a closely related subject, that of performance appraisal. Perhaps 15 or 20 articles in the *NAA Bulletin,* THE CONTROLLER, and the *Journal of Accountancy* in the past several years have utilized some form of return on existing investment as a measure of performance. This measure has been applied to divisions, subsidiaries, and even companies as a whole. Sometimes the articles indicate that return on investment can be extended below division general managers into the operating departments themselves as a measure of individual performance.

Most of these articles relate the profits for the current year to the "assets employed." Some authors feel the ratio is real and meaningful for comparisons among divisions or among companies, as well as for comparisons of different time periods on the same job.



"Well, we'd better be thinking of getting below, dear . . . traffic will probably start moving soon"

The writers of these articles must have faced the same problem of valuing existing facilities, in order to determine a proper denominator for the return on investment formula. There is certainly some difference of opinion among the articles. Some recommend the use of the original value of the equipment; others staunchly defend average book investment.

However, the authors seem to have missed entirely some of the major problems. Few mention the advisability of a correction for inflation, in order to put the various investments on a common-dollar base with each other and with the dollars of profit. The problem of excess capacity is also passed over. Presumably a division manager who had the ill-luck to be appointed to manage a division with a large amount of recently built excess capacity would just have to face up to a bad situation. If he moved from a division having largely depreciated facilities, built with the construction costs of yesteryear, and making a standard product which had undergone few changes in the intervening years, the average return on investment on his assets employed might drop to one-half its former value.

Some sort of limited measure of performance appraisal can certainly be developed based on return on assets employed; particularly where a manager has been on a job for some years, his relative performance year to year could be measured by such a means. Comparison among divisions, or rating of a manager who had recently been put on a job, would seem much more difficult. Economic cycles would also introduce a large variable element. There are other measures which seem just as good as return on investment for this appraisal purpose. There has been too much of a tone of finality in some articles, without adequate disposition of the problems involved.

EXISTING FACILITIES

Let us consider these problems in detail, as they appear to an economic evaluator. *If some value should be included to represent the utilization of existing equipment, what should it be?* Accounting records offer several alternatives. The original values of the entire pieces of existing equipment are, of course, available in the records and some share of the available capacity, that is to be utilized by the proposed investment, can be added to the denominator of the return-on-investment ratio.

However, depreciation allowances have reduced that original value on the accounting books to some other "book value" which may also be considered, for many purposes, to be the value of the equipment as of the time it is utilized. As many of the articles have suggested, perhaps only a proportionate share of that book value (based on the fraction used by the new product) should be charged to the new project.

Other alternatives also exist, outside the accounting records. The equipment will no longer be available for other use if it is put to this use. Consideration should therefore be given to the so-called

"opportunity cost" which is the next best use of equipment. This may be salvage value, or the cost of reserving the equipment for some other use intended in the future. If such a value can be put on the total equipment, perhaps only a proportionate share of such a value should be charged to the new investment.

Inflation introduces a host of other alternative measures of value of existing equipment. Almost any piece of equipment would cost more to install today than it cost when it was put in. If one had to replace a facility, the investment cost per unit of output would be higher than what is now installed. To avoid utilizing this capacity at too low a return, perhaps the "replacement value" of the original equipment should be considered and a share of it charged.

In appraisal, another method is used for evaluation of equipment in place. It combines the book-value and inflation corrections. The original cost is escalated to the present replacement value, to consider inflation, and then a fictional depreciated value is calculated which the equipment would now have if it had been installed at the calculated replacement cost. Alternatively, the actual book value could be brought up to date by an escalation factor to represent the effect of inflation.

Almost any desired answer can be achieved by using one or another of these investments in some of our new-project considerations to represent the value of idle facilities we are putting to use. *What should be used?*

FUTURE INVESTMENTS

As a matter of fact, the whole problem has not yet been stated. We have considered past investments. There are a few additional complications when one considers the present and the future. The normal way to handle an investment immediately proposed, of course, is to include all the proposed investment in the evaluation under way. However, if one has chosen a system where some allocation of previous investment is made in an economic evaluation, then it can certainly be argued that any excess capacity now being installed with the present investment will be charged against some future investment at the future time that excess capacity is utilized. Therefore, perhaps, it need not be charged against the investment at hand. Recall the ready-made plant we were to buy, in our example. The larger plant did save design costs, but the excess capacity does cost something. The main question then becomes how much excess capacity one may design into the plant. Under these circumstances, economic balance would not mean much, since one would not be forced to justify any excess capacity provided.

How about future investments which are made necessary, or at least moved up to a closer point of time, because of the investment now being made? Every use of excess steam advances the time a new boiler will be needed.

Some return on investment methods consider the time-value of money and study all future cash flows affecting an investment for each year, individually. By such methods, future investments can be included in the year at which they are now expected. Their effect is thereby reduced compared to a current investment, since they are discounted back to the present. If the boiler is merely required sooner due to an investment, the systems allow for including such investments only for the years it is moved up on the time table.

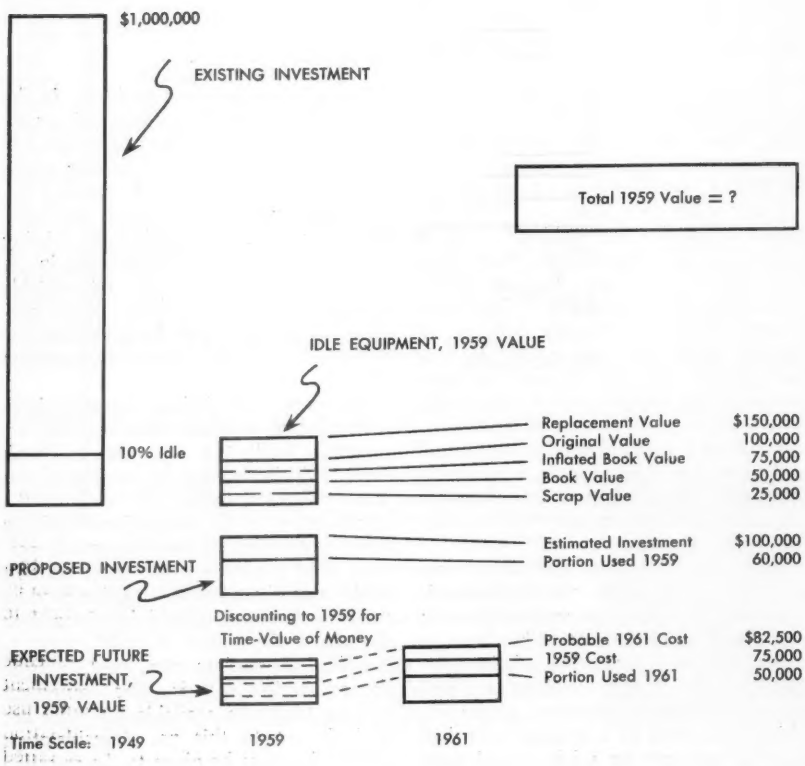
Adherents of other profitability methods not recognizing time-value of money recommend that the full share to be utilized be included in the evaluation as if it were being spent today.

Another problem concerns the use of only a portion of a new facility which is needed, such as a steam boiler. *Should the single investment, which forces its installation be charged with the entire cost, or only with the pro rata share which it needs? Does it make any difference if part of the boiler is idle for the first year or more?* There's also the possibility of apparent savings from the new boiler as compared with the present cost of steam.

Inflation again affects the amount of the future investment. *If we expect continued inflation, should the cost in some future year be inflated to represent its probable value as of that year?*

Figure 1 shows the variety of 1959 values which could be alloted to such an investment.

FIGURE 1



THE INCREMENTAL APPROACH

Let's go back for a minute and re-examine that approach suggested by the engineering economist—the "incremental approach", let's call it, which considers existing investments as "sunk costs" and attempts to make decisions based only on changes in future cash incomes, due to the proposed investment.

There are some apparently ridiculous aspects to this approach. It seems foolish not to charge a proposed new product with any fixed costs of existing facilities, as well as all costs of new facilities. Yet, if some volume of the product cannot be sold, the fixed costs of the existing facility will continue—volume of product has no

(Continued on page 394)

CONTROL AT HERTZ

"Moore forms help us get Rent A Car reports days sooner"

R. A. Petersen, Assistant General Manager,
Rent A Car Division of The Hertz Corporation

Hundreds of Rent A Car stations in cities all over the country mail complete daily reports to Hertz' Chicago central office. These reports cover over a million auto rentals a year, and they must be presented in summary to all levels of management for forecasts, market analyses and budget decisions.

In the past, these summaries were prepared manually from the daily reports. Rapid growth in Hertz' Rent A Car business required conversion from thousands of hand operations to an automated system.

With the automated system, the monthly revenue reports are ready days earlier, and contain more detailed information. The system is built around electric accounting machines, using punched cards. The only manual step is the initial key-punching of four cards for each daily report. From them, a preliminary weekly revenue report is run off, balanced and proved. For the full-scale summary, each month's cards are used again, and the machines automatically print the four sections of the monthly revenue report on specially designed continuous forms. The sections are two Credit Sheets, a Debit Sheet and a Statistical Summary of car rentals. Automatic machine accounting and printing eliminate all copying errors and the forms provide accurate copies of all reports for every office need.

"The Moore man's advice was a great help in designing the forms which we use in our system," said Mr. R. A. Petersen, Assistant General Manager at Hertz. The forms are continuous three-part Moore Speediflo forms—the company's control in print.

For more information on Automated Data Processing systems (ADP) and Moore-designed forms and systems for every size and kind of business, get in touch with the Moore man. He's listed in the Yellow Pages of your telephone book. Or write to the nearest Moore office. No obligation, of course.

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Cutting Costs of Sales-Order Processing

Maurice S. Newman

Without proper controls, the cost of processing an order may exceed the gross profit from a small sale

THERE ARE MANY COMPANIES that spend over a million dollars annually on data processing and related work. There are probably many companies that do not know exactly what they spend on such activities and this is particularly so in the case of sales-order processing. This function quite often cuts across organizational lines and the total costs do not appear in any one department or in any one expense grouping. These costs are part of distribution costs, just as marketing costs and delivery costs are a part of distribution costs, but they are rarely completely classified as such in the financial statements. This arises partly from the fact that certain of these operations may have been considered a part of either sales or manufacturing or procurement rather than of accounting. Part of our difficulty lies in our classification of accounts for financial statement purposes.

We have, in the past, placed considerable emphasis on what the expenditure of money was for, using such captions as direct labor, raw material, supplies, et cetera, and grouping them under broad captions such as selling expenses or general and administrative expenses. Such a classification can be very helpful in the early stages of business growth where the owner is generally conscious of the payments he makes. As a business grows larger, however, there is need to know the cost of various functions and of primary importance, in most companies, is the cost of processing a sales order completely from start to finish. It can happen that the cost of processing a sales order will exceed the gross profit to be derived from a small sale. Sales-order processing costs are affected by the number of orders, and by the number of line items on these orders, whereas the gross profit is usually dependent on the dollar volume. There is no necessary correlation, therefore, of income and expense.

SCOPE AND DEFINITION

Accounting in a very broad sense would take in all forms of recordkeeping within the company. While sales statistics may be prepared by the sales department, inventory records may be maintained by the manufacturing department and purchase commitment records by the purchasing department, the individuals maintaining these records are accounting for transactions. These will ultimately be reflected in the financial statements and are thus as much a part of the accounting process as are the general ledger or other books of account. There is a growing realization that these individual functions should be viewed as related parts of over-all procedures and should be considered as a part of the controller's responsibility. Not only could the financial and operating reports be prepared more quickly and more economically, but internal control would be strengthened considerably.

Accounting in the broad sense must parallel the operations of the company. In a manufacturing company, the principal operating processes are (1) procurement, (2) production, and (3) sales. They, of course, are interrelated but they are fairly distinct processes. In a distributing organization, the major operations are likely to be procurement, sales, and distribution although, in some cases, the procurement of new stock is geared so closely to recorded sales that sales and procurement may be considered as one single process.

SALES ORDER PROCESS

If we consider the entire process from the time that a sale is made until the goods have been delivered to the customer and payment has been received, the process might encompass any or all of the following functions:

Editing orders from salesmen
Editing mail-order sales
Taking telephone sales
Making over-the-counter sales
Authorizing credit
Confirming orders
Preparing bills of lading or shipping orders
Picking orders
Assembling orders
Packing and shipping goods ordered
Checking, loading, and routing orders
Determining discounts and freight
Pricing and extending invoices
Preparing invoices
Calculating commissions
Determining cost of sales
Preparing sales statistics reports
Handling returns and claims
Posting accounts-receivable records
Recording cash receipts

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In many cases, separate organizational units would be responsible for each of these functions although several of these functions might be combined in one department or section. The nature of the transactions handled by these functional units would change depending on whether the sales were for cash or credit, whether the goods were sold from stock or made to order, whether sales were made in full cases or in broken-case lots, and for many other reasons.

In those cases where procurement or production is closely related to sales, we might find the following functions also as a part of the sales order process:

Posting stock records
Preparing purchase orders
Receiving and checking incoming shipments
Paying for merchandise
Maintaining purchase-commitment records
Recording goods in transit
Planning production

FUNCTIONAL ANALYSIS

In order to control the costs of sales-order processing, it is essential to know what these costs are. As indicated previously, they are not always known precisely as these costs may occur in different departments and in different captions on the financial statements. If these costs are not known, the first thing to do is to find out what they are, and a close approximation can be arrived at by means of a functional analysis. The objective of such an analysis is to ascertain the cost of various functions and subfunctions performed within the company in such a way as to permit the determination of the cost of a whole process, such as the cost of sales-order processing.

The procedure to be followed is straightforward and realistic. The entire payroll should be studied to determine those individuals whose activities are basically accounting or record keeping in nature. Sales and operating personnel would normally be eliminated from such an analysis as would all executives and most supervisors. Most secretaries can be eliminated also as their workload is tied in closely with a corresponding executive. In those cases where it appears that supervisors or secretaries perform certain routine record-keeping functions, they should remain on the list of individuals whose work is to be studied. Salary costs, including overtime and fringe benefits, should be obtained for this group.

Each individual on the list should be asked to fill out a statement of his duties, showing the number of hours per month or percentage of his time that is devoted to each subfunction. Some employes may have difficulty in describing what they do and will use such terms as telephone calls or miscellaneous which are not descriptive of the duties and functions in question.

"How much is just the wrapper? I only read the condensed version on the inside folds"

The description will usually be adequate if it begins with a present participle, such as adding, calculating, or filing. An example would be "posting production to pay cards." The individual should avoid combining functions such as "sorting and filing," but it should not be necessary to describe separately any duty which takes less than one hour a month.

These statements should not be prepared by a supervisor, but should be prepared by the employe concerned as he is the one who should know what he does with his time. It is usually not necessary to make a detailed time study to determine the time consumed as most employes can estimate the time within reason and very little would be gained by closer estimates.

ANALYSIS OF TIME SPENT

These statements should be reviewed and corrected to obtain common terminology and the cost of each function performed by an employe should be determined by multiplying the employe's salary cost by the percentage of time assigned to each function. These costs can be accumulated by function for all employes to determine the total cost of each function.

Where certain functions are performed on a group basis, such as in stenographic pools or tabulating installations, the approach may need to be modified to fit the situation. For instance, the output of the stenographic pool could be measured by time charges, by letters written, or by pages of copy prepared. This would permit distribution of these costs to various functions at standard rates developed for the group as a whole.

Similarly the costs of a tabulating installation can be distributed on the basis of the standard costs of each form or report developed from the volume and processing requirements. This not only sets a price tag on each unit of output so that their relative values may be determined but it also provides an effective measure of the performance of the tabulating department against predetermined standards.*

The costs of each function or subfunction may be arrived at by adding together the costs arrived at by these various means.

SIGNIFICANCE OF FUNCTIONAL COSTS

Once these functional costs are obtained, they can be examined in many ways. The total dollar cost is quite often startling and is sufficient to stimulate a cost-reduction program. In many companies the largest part of these functional clerical costs will be found in the sales-order process and experience has shown that up to 50 per cent of the related functions may be mechanizable. The annual cost of mechanizing these functions is usually somewhere between one-third and one-half of the unmechanized cost, so that it is not unlikely that a 25 per cent saving in the total costs of sales-order processing might result. If the total costs are measured in the hundreds of thou-

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* This approach was covered more fully in an article which appeared in THE CONTROLLER for January 1957 entitled "Planning and Control in Machine Accounting Installations."

Effective Administration of a Marketing Research Department

Harry Deane Wolfe

How the controller can and should influence and exercise control over the marketing research department

THE MANAGEMENT of a modern corporation has the basic responsibility to conduct the affairs of an enterprise in such a manner that the firm will both continue to exist and be reasonably profitable. Meeting this basic responsibility, as well as other responsibilities, involves continuous striving for as efficient operation as possible. To this end, effective use of accounting controls for each division (or area of activity of a business) must be made by the financial executive and his staff. Such controls must provide for adequate financial control and yet allow for, and aid in attaining optimum performance by each operating division to which such controls are applied. In this manner the controls contribute to an over-all smooth and effective performance of the enterprise.

This paper is concerned with elaborating upon the two problems involved in the administration of a marketing research department:

1. How top management, including the financial executive, as well as operating departments, can and should influence and exercise control over the marketing research department; and
2. How the marketing research department itself can be administered most effectively, that is to say, how best to run the department within the scope of its mission and in view of the purpose for which it exists. Thus this report will be divided into two parts: Part I—Budgetary procedures and Part II—Basic principles to be used as a guide to management of the department.

PART I—BUDGETARY PROCEDURES

It is axiomatic that management never has enough facts available when a sales decision needs to be made. To help it do a better job, enlightened management provides itself with the marketing research function. And marketing research data are provided basically to reduce the area in which guesswork needs to operate in the following manner:

1. *By supplying facts* from which reasonably safe plans can be decided upon.
2. By *checking results* to determine how closely the plan was accomplished.
3. By supplying *additional facts* after *checking* to determine whether or not the plan is proceeding satisfactorily or needs changing and *where* the changes are needed.

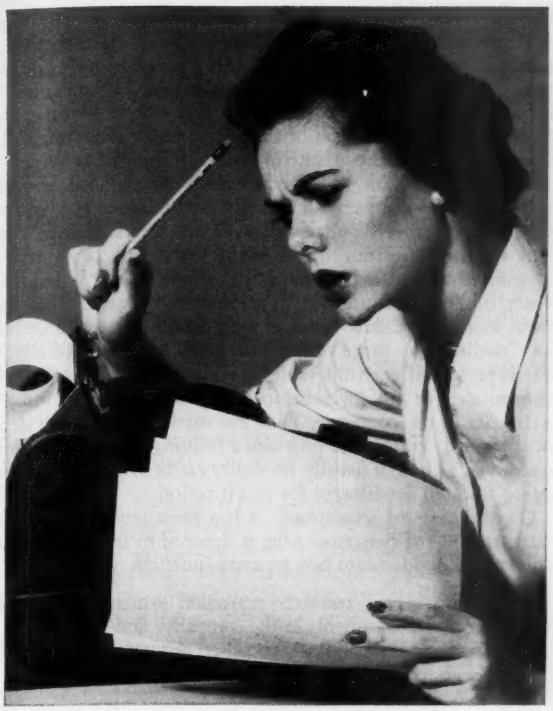
It is essential that the marketing research department cooperate closely with those who use its services, with those who need its services, and with those who exercise control over it and assist it in performing these services in the over-all best interests of the enterprise.

Let us now turn to some considerations involved in financial administration of a marketing research department.

HARRY DEANE WOLFE received his B.S. degree from Dartmouth College and his Ph.D. in Economics from the University of Wisconsin. He has had a varied career in the retail, mail order and manufacturing fields as well as university teaching and war-time government service. He has been a department store merchandise manager, director of a university business research bureau, market research director of the Colgate-Palmolive Company and is currently professor of Commerce and Journalism at the University of Wisconsin. He is the author of many articles on business subjects. In the preparation of this paper he was assisted by Gordon E. Miracle, teaching assistant at the University of Wisconsin.

TOTAL BUDGET

The dollar budget is the most important single consideration. Marketing research in most companies is not a standardized function even in organizations with tightly drawn organizational charts. The over-all reach of a marketing research department often cannot be clearly defined. In many companies it is a service department attached either to the top marketing executive, or to the president of the company. Thus it is a highly placed department organizationally. Its functions are chiefly staff functions. Usually its own staff includes technical specialists whose training and experience can be used effectively in many departments of the company on special projects. The problem of assigning or allocating expenses to short-term jobs or awaiting executive ap-



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proval to start such jobs, is one of the difficult problems of administration. For example, a certain job may take only an hour. It is a rush job. A certain department head needs the information to go into a meeting. There is no money budgeted against this department. *What can you do?* A good manager gets the job done and then worries about the allocation of the budget later.

In a large marketing research department, up to about 50% of the budget will already have been committed for continuing services rendered by outside companies. Analysts and clerks must be assigned to the interpretation of these continuing services. How much budget to allocate to analysis is worked out through experience. In some companies some operating divisions require a great amount of analytical work since they want their information *predigested*. Other departments desire no outside help and perform whatever analytical work is necessary within their own divisions. A good working figure might be wages and salaries of clerks and analysts, *approximately 25% of the cost of continuing services.*

A company which is growing, developing new products, improving old products, experimenting with advertising expenditures and with advertising campaigns, obviously requires a much larger flexible budget than companies in which all activities are fairly well routinized and little experimentation is taking place. About 1½-2% of sales is a maximum budget figure for the total marketing research department budget. The larger companies are spending at about this rate today.

PRODUCT BUDGET

Normally, the product budget will be based both on past experience and from consultation with the various brand managers in the marketing divisions and in the research and development divisions. The budget must be realistic in terms of expectations that are foreseeable. However, in a dynamic society, tendencies for change and innovation seem to be normal. Therefore, the budget must contain some allowance for flexibility. It is axiomatic that good budgeting usually overestimates slightly rather than underestimates grossly. Often, if money is carelessly budgeted, unnecessary expenditures may occur. On the other hand, if the budget is too tight, the marketing research director may be forced to veto certain projects which later may be highly desirable.

DO IT YOURSELF

There is considerable room for discussion on whether the marketing research department should be staffed up to do work itself or pay for this work to be done by outside companies. The do-it-yourself approach has much to recommend it inasmuch as it permits a wider selection of talent within the department. This is good for both the marketing research department and the company as a whole. The availability of technical specialists throughout the company should not be minimized. A company with a do-it-yourself policy will have a larger staff than a company which "farms out" much of its work. The larger staff has advantages and also handicaps. In general there is an insufficiency of personnel trained in marketing research. This comes about in large measure because the operating departments carry out "raiding" or proselyting. The better-trained marketing research personnel are vulnerable to this type of intradepartmental competition for employes because they work with so many departments in the company. Thus the marketing research department in many companies provides a training school for company executives, although usually no dollar credit is given to the marketing research department for this function.

On the basis of experience, it has been noted that often as much as 10% of personnel time is devoted to training purposes. This can be divided into two separate functions:

1. The marketing research personnel which is later transferred to other departments in the company; and
2. Training of personnel for other departments, using marketing research facilities.

For example, a six months' training course for trainee merchandising executives can be provided. This is also true of advertising department trainees. International division personnel is given refresher training.

NECESSARY AUTHORIZATION

The marketing research department should not be allowed to initiate any projects involving out-of-pocket expenses without prior approval of at least three departmental heads including, of course, the requesting department. All requests must be thoroughly reviewed by three departments *excluding the marketing research department* in order to assure two very vital aspects:

1. *Will the operating departments use the information after they get it?*
2. *Could the project be delayed without interfering with company profits or policies?*

Those who must approve these requests should assume a tolerant attitude although not necessarily a lenient one. There is no greater waste of resources than marketing research that is done and then not used. Adequate and open discussion of each job in advance is an indication of interest and a token of participation in the final results. However, the budget department should not be too strict in enforcing or requiring that only budgeted objects can be authorized. *The budgeting department should only keep a strict dollar control.* The need for this tolerance cannot be overemphasized since, as stated above, in a dynamic society change is omnipresent. However, the budgeting department must enforce the over-all dollar budget except in cases of extreme emergencies, and extreme emergencies should be rare.

REPORTING FORMS

After the budget has been made up, reporting forms and a reporting system must be set up by the controller so that periodic reports may be submitted by the marketing research department. The controller and his staff must compile comparisons between actual and budgeted expenditures. He also provides for proper allocation of costs between divisions or departments in order to chart the course of the company as planned in the original budget and to develop information that can be used by

management to insure that operations are kept under rigorous control. Thus, the marketing research department must periodically prepare such reports to meet these needs of the controller.

It is desirable that the reporting forms show:

1. Budgeted figures versus actual figures by periods;
2. Cumulative figures by subperiods (probably months) within the entire budgeting period (probably one year);
3. What portion of expenses are actually marketing research expenditures and thus can properly be charged to the marketing research department; what expenses can properly be charged to other departments such as selling expense and advertising costs incurred during a sales test. In many firms often as much as 80% of expenditures made for sales tests are properly chargeable to other departments; and
4. What part of other department expenditures are chargeable to marketing research.

In order to meet the above requirements the following report forms are recommended:

Form A—This monthly report form shows out-of-pocket expenses chargeable to a particular division. For the month, and cumulatively for the year to date, it shows actual expenditures and authorized (or budgeted) expenditures for easy comparison. The actual project expenditures are also broken down by product group. This summary-type report provides figures for quick perusal by top management as well as by the financial executive.

Note on *Form A* that Division I has been authorized to spend $250,950 for consumer research during 1958 of which sum $56,500 was authorized during October 1958.

During October 1958, research was done in all product classes except Product Class E. A total of $47,085 was expended during October 1958—which compares with $23,500 paid out during October 1957.

Form B—For accounting department purposes more detailed information is needed. This report form shows a breakdown of expenditures by individual products, by brand name, and also a breakdown of the expenditures made for each product. Also, the data are given for the month as well as cumulatively for the year to date. The form also provides a means of showing the status (see footnotes to *Form B*) of research on detailed phases of each product, i.e., research completed, research approved but no costs incurred to date, or research dropped and testing activities cancelled.

Attention is called to some of the detailed information on *Form B:*

1. Detailed information is shown for Product Class A—which spent $20,561 during October 1958 (See *Form A*). There are seven listed projects, which were started during either 1957 or 1958.
2. Product Class B shows six projects (project Nos. 452 through 457).
3. Since the projects on Class A were started (some began during 1957), a total of $125,391 has been spent.
4. Total amount of money authorized for these seven projects is $161,550, leaving a balance to spend of $36,159 ($161,550-$125,391).

Form C—This form is intended for the division to which the expenditures are to be charged. It shows a summary of project expenditures broken down by product. The form also presents monthly figures with accompanying cumulative figures for the year to date.

Some companies may find it necessary to modify these suggested report forms to fit their own company organization and product lines. Nevertheless, proper financial control can be achieved only if reports are prepared for top management, for the financial and accounting division, and for the appropriate operating division.

(Continued on page 376)

FORM A CONSUMER RESEARCH—DIVISION I [redacted]
OUT-OF-POCKET COSTS

	1958		1957	
	Month of October	*Year to Date*	*Month of October*	*Year to Date*
I Project Costs				
Product Class A	$20,561	$ 67,106		
Product Class B	23,491	69,157		
Product Class C	921	7,845		
Product Class D	2,112	6,928		
Product Class E	—	5,872		
Total Project Costs	$47,085	$156,908	$23,500	$75,000
II Authorization to conduct consumer research approved to this date	$56,500	$250,950		

FORM B CONSUMER RESEARCH—DIVISION I [redacted]
OUT-OF-POCKET COSTS

Project Number	*Date Project Started*	*Projects—Division I*	*Month of October 1958*	*Year to Date 1958*	*Since Start of Project*	*Approved Cost Estimate*
		I. Product Class A—Brand A				
413	1957	New Formula	$ 4,137	$ 6,663	$ 10,000	$ 14,000
426	1958	Experiment with ST-37 (A)	—	1,021	1,021	1,050
427	1958	Field Pick-Up (A)	—	3,401	3,401	3,500
428	1958	Flavor Improvement (A)	—	444	444	500
442	1957	Increased Media Ads	15,559	50,603	100,000	125,000
443	1958	Aerosol Container	525	525	525	5,000
		Product Class A—Brand B				
450	1958	New Package	340	4,449	10,000	12,500
		Total Product Class A	$20,561	$67,106	$125,391	$161,550
		Previous Year Comparative Total	$10,000	$55,000		
		II. Product Class B—Brand A				
452	1957	Low-Viscosity Test				
453	1957	Charm Book Promotion				
454	1958	New Color Test				
		Product Class B—Brand B				
455	1958	New Perfume				
456	1958	Higher Active Ingredient				
		Product Class B—Brand C				
457	1958	New Blends				
		Total Product Class B				
		Previous Year Comparative Total				

Notes:
A. Final Costs: Consumer Research Completed.
B. Consumer Research Approved: No out-of-pocket costs incurred to date.
C. Project Dropped.

FORM C PRODUCT CLASS A—DIVISION I [redacted]
CONSUMER RESEARCH—OUT-OF-POCKET COSTS

Product Class	*Project Number*	*Description*	*Month of October 1958*	*Year to Date 1958*
A	413	New Formula	$ 4,137	$ 6,663
	426	Experiment with ST-37	—	1,021
	427	Field Pick-Up	—	3,401
	428	Flavor Improvement	—	444
	442	Increased Media Advertising	15,559	50,603
	443	Aerosol Container	525	525
	450	New Package	340	4,449
		Total	$20,561	$67,106

PART II—THE SIX BASIC PRINCIPLES

Obviously, all divisions of the firm which, either directly or indirectly, control the purpose and scope of the operations of the marketing research department must understand not only what the marketing research people are expected to do, but also how they can do their work most effectively. It is, therefore, the objective of this paper to set out in some detail the job of the marketing research director and his staff.

Every executive, whether he is running the marketing research department, the sales department, or the cost accounting department, has basically two types of problems: The *physical problems* of production, of personnel management, and budget management; and secondly, the *substantive part* of the job—that is, the problem-solving part of the job. Often an efficient office manager can be hired who needs to know just the barest minimum of the content of the output but is a slick operator in getting people to do jobs on time, and at the lowest possible cost in terms of money and frayed nerves.

One could go on at length describing what the marketing research director does, how he does it, why he does it, where he does it, how much it will cost, etc. However, everyone interested in marketing research has different problems, different environments, different solutions. Basically, the administration of a marketing research department, like the administration of any other department, *is a question of getting work done through people.* They must follow the policies established. But also, the marketing research director's office door must be kept open at all times so that anyone with suggestions, criticism, or advice can come in and be heard.

From experience six basic principles have been found to which the successful marketing director will find it desirable to adhere. These six principles are:

1. Stay on the job
2. Get a good organization
3. Use the newest techniques
4. Check—check—check
5. Sell the service
6. Keep the service sold

STAY ON THE JOB

The marketing research director must stay on the job. He must work with his people, train them, give them the benefit of his experience, counsel them, set high standards for them. He must make no compromise on the quality of their work. He must compensate fully for unusual talents.

"You call yourself a plant manager? You haven't produced a winning bowling team in four years!"

GET A GOOD ORGANIZATION

The marketing research director must build a strong organization within the limits of the budget and organize the division of responsibilities around the talents of available personnel. If only a one-man organization can be afforded, a well-trained mathematical statistician is recommended. Go on from there—building block by block.

How large should a department be?

The organization need not be large nor does it need to have a large budget. "Give a man a horse he can ride." It should be large enough to do the job. If the marketing research department is performing its functions efficiently, it will grow in proportion to the contribution which it makes.

It is well known that the budget of marketing research departments is increasing from year to year in nearly all progressive companies. *But there are still many companies which spend nothing on marketing research.* The largest marketing research department in the country spends on market research alone approximately $3 million annually; *plus* an additional $2 million to $3 million for setting up experiments which are chargeable to other departments.

To whom report?

It is vital that management knows intimately what the consumer is thinking. The marketing research department should, therefore, whenever possible, be attached to a nonoperating department, either the office of the president or the vice president in charge of marketing. The department should be free of all shackles and be courageous enough to call the shots. On the other hand, *the director must not compromise or look for weaseled and guarded statements.* The department must operate; the research must be so planned that it gives the correct predictions more than 50% of the time. The marketing research department must build confidence in its objectivity and in its predictive ability.

Don't be hurried into bad research. Research is designed to be an aid to judgment. It should not be considered an anesthetic to judgment. However, when full *dependence* is to be put on the data and minimum regard is to be put on experience and accumulated knowledge, then the data should be statistically significant.

USE THE NEWEST TECHNIQUES

The marketing research department must use the best and newest techniques. The marketing research director should not be a diehard on accepting new ideas, new devices, new approaches. Chances are that if the techniques being used are ten years old, they are old-fashioned and out-dated and should be replaced with more up-to-date techniques. The marketing research director must always be on the lookout for people who can supplement the technical skills which he already has in his associates. In the future the marketing research staff of analysts will be recruited *almost equally* from the behavioral sciences and from the current sources of men who were trained in mathematics, statistics and marketing.

CHECK—CHECK—CHECK

A good researcher makes the *basic assumption* that the material handed to him by his analysts has a large number of errors. It is his function, as a supervisor, intelligently to ascertain that no basic errors occur in the data. Some of the errors are obvious and require only one glance to uncover. Others may be hidden, but a sampling should be made of all the data and verified. Gremlins are everywhere. They change figures, they transpose figures, they put them on the wrong lines, they put them on the wrong pages, they introduce typographical errors, as well as spelling errors.

Before results are submitted the researcher should *check the results against some other material* to make sure that he does

not have a peculiar answer, an off-beat answer, or an incorrect answer. It is always well to make a second try at an answer to make sure a reasonable answer is obtained.

SELL THE SERVICE

Marketing research is not of much value if the reports gather dust in the files. The reports must be helpful to the operating people and to top management.

The marketing research director must work closely with the operating people when setting up experiments. Especially, he must work with the accounting department so that they will set up their records to help get some of the basic data needed. This is one of the most vital sources of information, but so often overlooked. More marketing research per dollar can be obtained from company records than can be had from anywhere else in the universe. Marketing research reports should avoid polysyllabic abstractions. They should stay away from technical vocabulary. The reports should be written in clear, simple sentences. If the researcher must show how much work he did that actually is not necessary for the decision, then he should make up a second volume or put it in the appendix; but he should not leave any doubt in his customer's mind as to what his report is trying to say.

KEEP THE SERVICE SOLD

The marketing researcher must keep the service sold. The rules for repeat business are no different than they are in any other business. The consumer must be satisfied at the lowest possible cost! The various levels of management must be given facts that they can use to do a better job, to make more profits, to support their position, to defend themselves when under attack, or for whatever reason the research has been carried out.

Don't politic with the data. The research department should let the chips fall where they may. However, operating people should be kept fully informed of the progress of the marketing research department reports, and they should be informed of the nature of findings; they should be discussed with them. It may lead to some additional research that has been overlooked.

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SHORTS FOR SUMMER READING

Contrary to popular opinion, vacation time is the time for serious reading. Away from pressures, tensions, and important decision-making problems, the businessman is free to browse at leisure in the world of business; to read, evaluate, absorb and reject information and ideas pertinent and contiguous to his profession. On the theory, therefore, that mysteries and westerns should be saved for the hectic business year, when periodic escape is needed, the following are offered as ideas for summer reading.

ACCOUNTING FOR OIL AND GAS PRODUCERS: Principles, Procedures, and Controls*

By C. Aubrey Smith and Horace R. Brock

To provide a realistic picture of present-day industry accounting practices, the authors have relied to a great extent on information on the accounting practices and policies of more than 60 oil companies, ranging from the very small to the very large, plus company accounting and procedural manuals.

The introductory chapters on economics of the petroleum industry, geological and geophysical activities, drilling operations, special contracts, and company organization are designed to give a basic understanding of some of the problems facing the oil and gas producer.

Descriptions and analyses of other aspects of operations are presented throughout the book in explaining the accompanying accounting principles and practices. In addition, the more important variations of accounting practices found in use today are presented along with arguments for and against each.

* *Published by Prentice-Hall, Inc., Englewood Cliffs, N. J. $8.00.*

PROGRAMMING BUSINESS COMPUTERS*

By Daniel D. McCracken, Harold Weiss and Tsai-Hwa Lee

This is written for the person who lacks an extensive background in mathematics but who is involved, or expects to be involved in the day-to-day application of electronic computers to business data-processing problems.

The introductory chapters provide background information on the nature of the data-processing problem, the central concept of the file, flow-charting, and the general characteristics of electronic computers. The authors then present all the standard coding techniques with examples written in terms of a hypothetical computer called DATAC which is a compilation of the features of many machines.

Following chapters include an examination of such advanced techniques as the principles of sorting, re-run, timing estimates, file organization, automatic coding, and large random-access storage devices.

The book concludes with a summary of the steps involved in establishing a computer application, and a critical examination of the accounting and auditing problems associated with electronic data processing, including some characteristics of accounting by computer, reliability of computers, system checks, data protection, and auditing problems.

* *Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. $10.25.*

IDEAS FOR MANAGEMENT: Papers and Case Histories Presented at the Eleventh Annual International Systems Meeting*

Ed. by Colver Gordon

Grouped under "Anatomy of Systems" are papers on the approach, analysis and design of a system; the productive office, data management, the target of systems; and the human sciences in systems. "Systems Communications and Electronics" covers communications trends, electronic data processing and management, and computer trends; and "Automation in Factory and Business" includes the development and operation of an existing totally integrated system, lessons to be learned from applying organization principles to a totally integrated system, operating characteristics of the highly

automatic factory, and operating and maintaining an electronic data-processing system.

Other papers cover the systems function, the systems survey, organization analysis, work reduction and measurement techniques, and systems for low-volume operations, in addition to forms control and an integrated records management program. And a section dealing with electronic data processing covers the basics of electronic systems.

C. Northcote Parkinson, of the "law" fame, lends his serio-comic touch with the Parkinsonian view on people, education, business, and computers (which "you should keep away from . . . at feeding time . . .").

* *Published by the Systems and Procedures Association, 4463 Penobscot Building, Detroit, Michigan. $16.00.*

EVALUATING AND USING BUSINESS INDICATORS: With Special Reference to the Current Economic Outlook*

Ed. by Albert Newgarden

Noting that "management can sharpen its timing by using those business indicators that can reveal the pattern of future economic activity, and that can be correlated with the company's operations," the object of this report is stated as one of providing a clear view of what these business indicators can and cannot do for management. Originally presented at a special conference, the papers included cover such topics as evaluating and interpreting the indicators, using the indicators for industrial forecasting (heavy equipment, hard goods, and consumer durables), and current trends and prospects.

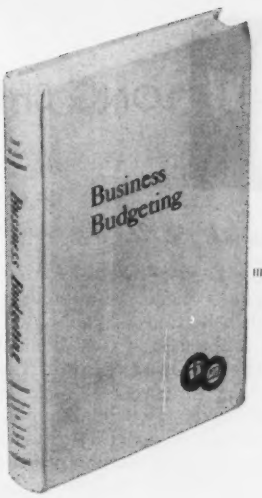
* *Published by the American Management Association, 1515 Broadway, New York 36, N. Y. $3.75.*

THE EUROPEAN COMMON MARKET AND ITS MEANING TO THE UNITED STATES*

In the light of European industrial recovery and the competitive position of the United States in world trade, consideration of the European Common Market is both timely and of interest to American businessmen. Of basic interest is a chapter devoted to a succinct statement of what the Common Market is, including some historical background. Other chapters deal with trade discrimination; the association of the rest of Western Europe with the European economic community; the United States, the European Common Market and world economic order; plus appendices.

* *Published by the Committee for Economic Development, 711 Fifth Ave., New York 22, N. Y. $2.00.*

Business Budgeting



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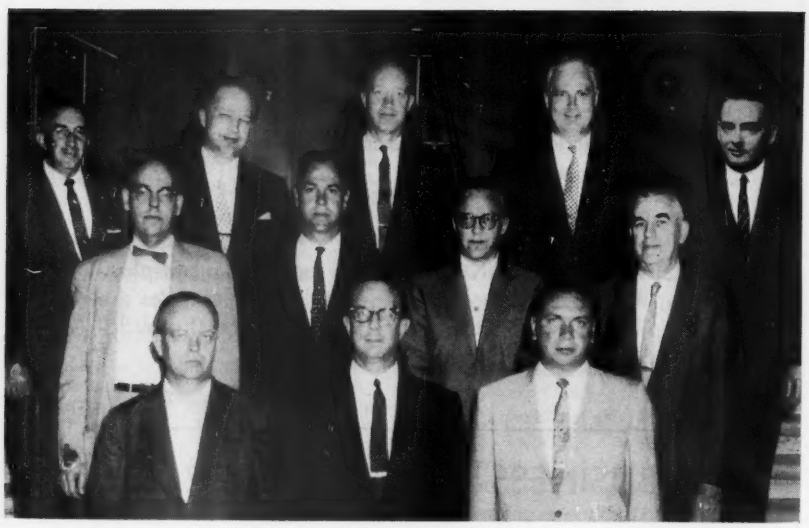
Syracuse, N. Y. (TOP RIGHT)

Two colleges of Syracuse University and LeMoyne College were presented with valuable collections of publications for research in the field of controllership, a gift from the Syracuse Control of Controllers Institute of America.

The triple gifts, which included 10 years of back issues of THE CONTROLLER together with a collection of publications of Controllership Foundation, were accepted for the colleges by Rev. Francis J. Fallon, S. J. of LeMoyne *(second from the right);* Dean William T. Jerome III of Syracuse University College of Business Administration *(center);* and Dean Alexander N. Charters of University College *(right).*

The presentations were made by Hans C. Todt *(extreme left),* national chairman of the Committee on Education of Controllers Institute, at brief ceremonies in the conference room at Bristol Laboratories. Chester W. Sims, president of the Syracuse Control *(second from the left)* also participated.



Pittsburgh, Pa. (LOWER LEFT)

Men behind the preparations for the 28th Annual National Conference of Controllers Institute of America, to be held in Pittsburgh October 24-28, at a meeting to discuss plans.

(Left to right row 1) Garrett E. Kauffman, the National Supply Co., *Housing Chairman;* R. Burt Gookin, H. J. Heinz Co., *General Chairman of the 28th Conference Committee;* Paul D. Hausenbauer, National Dairy Products Corp., Rieck Dairy Div., *Finance Chairman.*

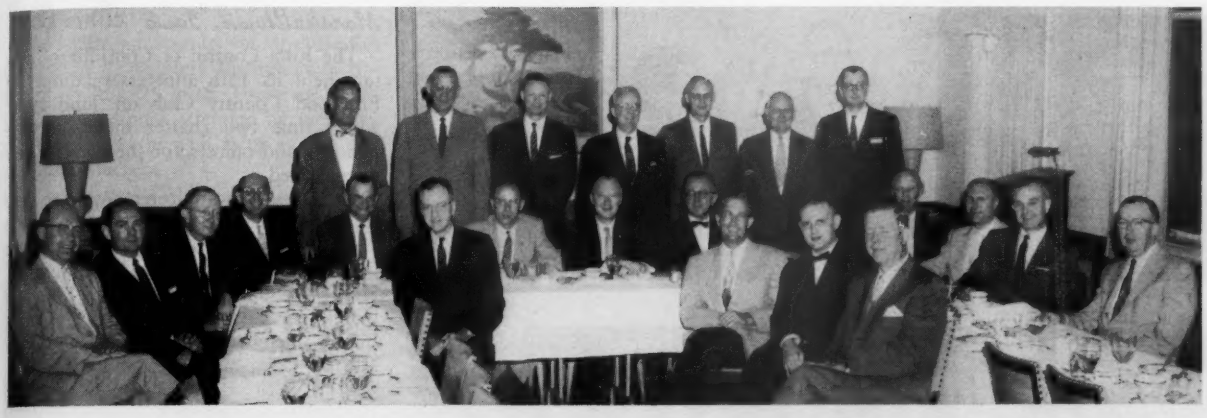
(Left to right row 2) Edward H. Eaton, Pittsburgh Plate Glass Co., *Program Chairman;* L. Stanton Williams, Pittsburgh Plate Glass Co., *Ladies Hospitality Chairman;* Munro Corbin, Rockwell Mfg. Co., *Arrangements Chairman;* Leo C. Simmons, United States Steel Corporation, *Publicity Chairman.*

(Left to right row 3) Dundas Peacock, Elliott Co., *Speakers Hospitality Chairman;* Paul A. May, Mine Safety Appliance Co., *Business Show Chairman;* T. Ames Wheeler, Allegheny Ludlum Steel Corp., *Industry Conferences Chairman;* Gordon R. Graham, the National Supply Co., *Secretary of the 28th Conference Committee;* E. T. Fitch, Dravo Corp., *Vice Chairman of the 28th Conference Committee.*

•

Also serving on the 28th Conference Committee but not present when the photograph was taken are: Edward B. Lee, Jr., Latrobe Steel Co., *Inter-Control Chairman;* Russell K. Steffey, Fort Pitt Bridge Works, *Reception Chairman;* and H. J. Haughton, Jones & Laughlin Steel Corp., *Registration Chairman.*

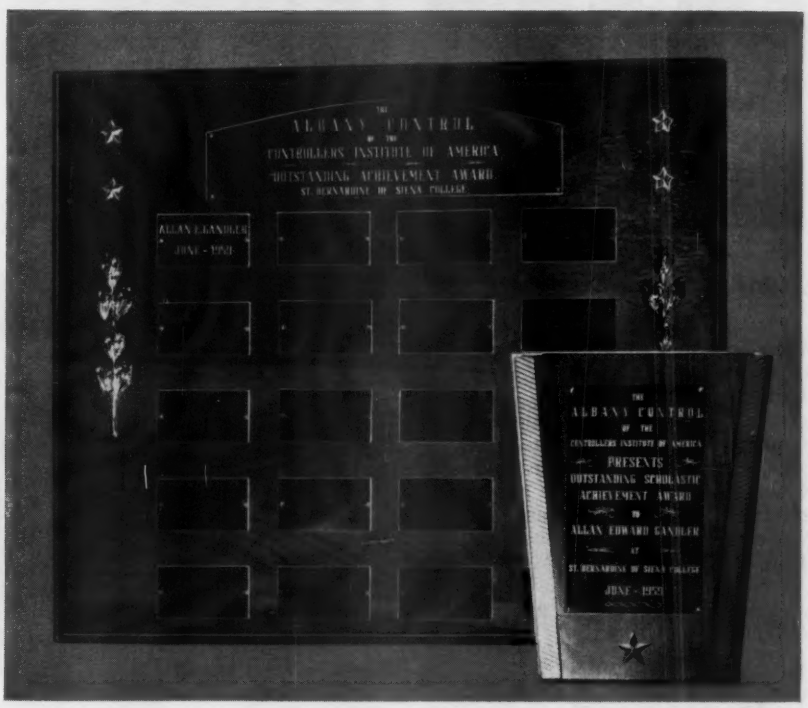
LONG SHOTS & CLOSEUPS WITH THE CONTROLLER CAMERA



Birmingham, Alabama (ABOVE)

Members and guests of the Birmingham Control of Controllers Institute of America observed the 15th anniversary of the Control on May 27 at the Vestavia Country Club. Among the participants in the program were C. C. Lay, vice president of Region V of the Institute and treasurer, the Wheland Company, Chattanooga, Tenn.; and Paul Haase, managing director of the Institute.

Discussing controllership research programs at a recent meeting of the Birmingham Control of Controllers Institute were *(left to right)* Dr. William C. Flewellen, professor of accounting and assistant dean, School of Commerce and Business Administration, University of Alabama; Dr. S. Paul Garner, dean, School of Commerce and Business Administration, University of Alabama; and John V. van Pelt III, vice president, treasurer, and controller, Vulcan Materials Company, Birmingham, and a vice president of Controllership Foundation.



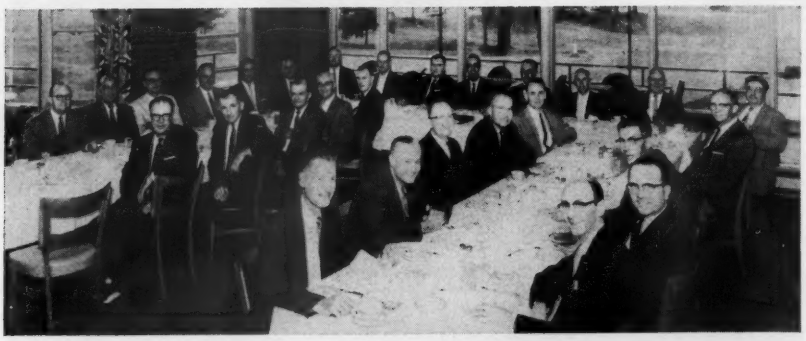
Albany, N. Y. (ABOVE RIGHT)

The Albany Control of Controllers Institute presented this large permanent plaque to St. Bernardine of Siena College on which could be placed the names of business students who were awarded individual plaques for "outstanding scholastic achievement."

The first of these small plaques was given to Allen Edward Gandler at the college commencement exercises early in June.

"In setting the standards for the awards, the Albany Control left this strictly to the faculty of the school but insisted that it be an outstanding student majoring either in Business or Industrial Management with an emphasis on the student who would go into private business wherever such determination is possible," said Kenneth J. Plant, Albany Control member of the national Committee on Education of Controllers Institute.

LONG SHOTS & CLOSEUPS WITH THE CONTROLLER CAMERA



Marshalltown, Iowa (CENTER RIGHT)

The Iowa Control of Controllers Institute held its 15th anniversary dinner at Elmwood Country Club on June 19 at which time two charter members were honored and officers for the coming year were elected.

At the cake-cutting ceremony were *(left to right)* Karl M. Torgerson, 1954-55 Control president and a director (Iowa Power & Light Company); Kenneth W. Hill, 1959-60 president-elect (Meredith Publishing Company); Einar B. Oyaas, charter member and 1946-48 president (Curtis Companies, Inc.); Rowland G. Wright, retired, a charter member and 1952-53 president; H. R. Ponder, 1958-59 president (Fisher Governor Company); Leslie E. Wiles, 1956-57 president (Collins Radio Company); and Carl T. Koester, 1957-58 president and a director (The Register & Tribune Company).

(BOTTOM OF COLUMN)

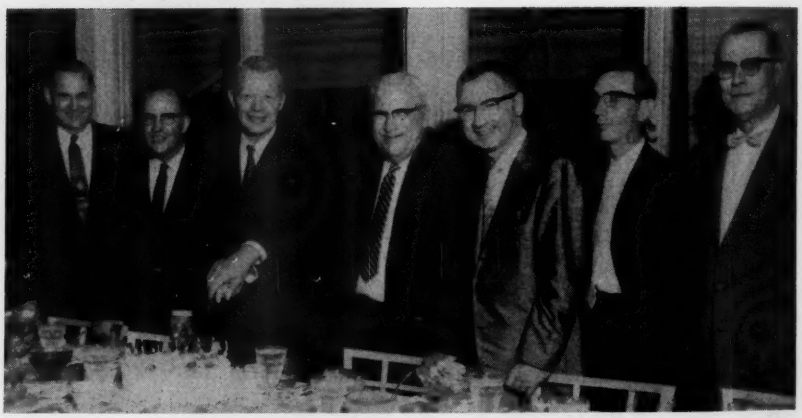
John W. D. Wright *(left)*, vice president, Region VIII (International Harvester Company) and A. Paul Thompson (Iowa Power & Light Company).

Memphis, Tennessee (ABOVE LEFT)

Harold S. King *(third from left)* who was elected to a second term as president of the Memphis Control of Controllers Institute, greets Emmett J. House, a charter member and first president of the Control, at the 10th anniversary observance on June 18 at the Chickasaw Country Club. Mr. House, a former national director of Controllers Institute, is senior vice president of Union Planters National Bank and Trust Company, Memphis.

Observing the handshake *(at left of Mr. King)* are John C. Shea of New Orleans and C. C. Lay of Chattanooga. Mr. Shea and Mr. Lay are national vice presidents respectively of Region IX and V of the Institute. Others in the photograph *(left to right)* are charter members of the Memphis Control and include Herman L. Scott, Louis G. Ost, A. O. Burton, Jr., and Warren S. Wagner.

The full group in attendance at the dinner meeting included national and local officials of the Institute, who had met earlier that day in Memphis at a session of the Area Operations Committee under the chairmanship of John C. Shea and Harvey M. Snook, incoming national director from Birmingham.



Other visitors included Charles G. Dudley, president-elect of the Chattanooga Control; Steve Bomar, Institute national director from Atlanta, Georgia; O. J. Howat, retiring president of the New Orleans Control; P. G. Beene, president-elect of the Birmingham Control; Leland K. MacFarland, national director from the Oklahoma Control; Richard Hall, president-elect of the Florida Control; Joseph E. Viguerie, president-elect of the New Orleans Control; and Paul Haase, managing director of Controllers Institute.

LONG SHOTS & CLOSEUPS WITH THE CONTROLLER CAMERA

Boston, Mass. (TOP LEFT)

The 25th anniversary of the Boston Control of Controllers Institute was observed on June 25 in the Somerset Hotel, at a special dinner attended by members and their wives, as well as many national and local officials.

In addition to Messrs. Wallis, Yoder and Hughes, others at the head table included *(at left)* retiring Control President Thomas D. Walsh, vice president and controller, National Company, Inc., Malden, Mass.; the Institute's managing director, Paul Haase; *(at extreme right)* Burdette A. Johnson, treasurer, New England Gas and Electric Association, and a national director of CIA; and Eric L. Hamilton, vice president, Canadian Industries Limited, Montreal, and vice president of Region I of the Institute.

Seated between President Hughes and President-elect Yoder is Lawrence H. Pexton, treasurer, General Radio Company, West Concord, Mass., who is the newly elected president of the Boston Control.

(CENTER LEFT)

Charter members, past presidents and honored guests of the Boston Control are pictured immediately prior to the dinner. *(Front row left to right)* Eric L. Hamilton; Alvin F. Lundberg; C. Ellis Spencer, who served as chairman of the anniversary observance committee; Wilfred L. Larkin; H. Coleman Moore, Jr.; *(Second row left to right)* Robert H. Meystre; Burdette A. Johnson; Charles W. Tucker; Lawrence H. Pexton; Philip R. Palamountain; Edgar R. Coddington; *(Rear row left to right)* Roger A. Yoder; J. McCall Hughes; Robert N. Wallis; William H. Perks; and Thomas D. Walsh.

(LOWER LEFT)

The presidential gavel is presented to Mr. Pexton by Mr. Johnson as Mr. Walsh looks on.

(LOWER RIGHT)

Past National President Robert N. Wallis, vice president and treasurer, Dennison Manufacturing Company, Framingham, Mass., greets Institute President-elect Roger A. Yoder, vice president, Detroit Steel Corporation, Detroit, Mich., and Institute President J. McCall Hughes, executive vice president, Mutual of New York, New York.

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*

CONTROLLERS INSTITUTE OF AMERICA

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JOSEPH J. SCHOFIELD
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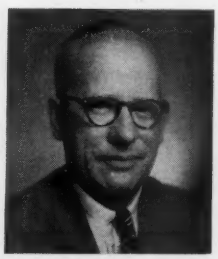

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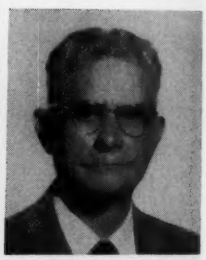

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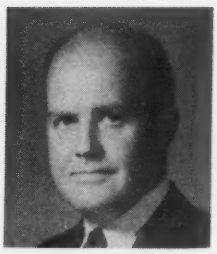
Puerto Rico



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Old Colony Envelope Company
Springfield

GEORGE J. WACHHOLZ
Minnesota Mining & Mfg. Co.
Twin Cities

* SECTION I comprising 17 Controls appeared in the July issue of THE CONTROLLER on page 331

SECTION III comprising the remaining 18 Controls will be published in the September issue

Industrial Relations Workshop In San Francisco

"We can't help communicating, whether we plan to or not. The plea . . . is that we *plan* to communicate since we're going to be doing it anyway."

As the lead-off speaker, Sidney L. Briggs set the pace for a practical discussion of the basic elements of employe communications at the Industrial Relations Workshop—Part II, the Sixth Management Workshop sponsored by the San Francisco Control of Controllers Institute of America.

In addition to Mr. Briggs, assistant to the president of Librascope, Incorporated, Glendale, Calif., the panel consisted of two other speakers: Robert D. Gray, director of industrial relations, California Institute of Technology, Pasadena, Calif., and William H. Jones, manager—employe publications division, Standard Oil Company of California, San Francisco, Calif.

COMMUNICATION— INTENTIONAL OR UNINTENTIONAL

In a review of basic considerations, Mr. Briggs pointed out that the relationship of the employe to his company cannot be looked at in mechanistic terms—the company is not a "finely working machine"—the organization must be thought of as human because it is made up of individuals who will react emotionally and intellectually to the company, their jobs, co-workers and superiors. As individuals, they retain the rights of individuals including that of self-determination. Authority, he suggested, generally considered to be delegated from above, is actually delegated by subordinates to the boss. By working for an organization, employes delegate to management part of this right of self-determination—the right to make certain decisions for them. This delegated authority must be exercised with due regard for the fact that it can be revoked as freely as it was given.

An employe's opinion of his boss is influenced largely by the leadership exercised day to day and by what his boss communicates to him—what he says and does, and often what he fails to say or do. If management does not communicate its policies and actions accurately and effectively all the way down the line, it is operating in a vacuum. Conversely, the company must know what information its employes want; it must develop what Mr. Briggs calls a "positive listening attitude." As a result of an employe opinion poll conducted some time ago, Librascope learned they had not established any real understanding between management and employes on the problems that count most: the company and its future; where the individual stands in the company; mutual successes or failures; and what management really thinks about its approach to things. The care and planning that goes into a company's advertising and its relations with its customers should be applied to employe communications.

Six fundamentals of communications bear repeating: Always remember, employes are people; give them facts in terms of their interests; communicate truthfully; communicate specifically; communicate simply; and, lastly, repeat it over and over again. The employe, concluded Mr. Briggs, "is looking for leadership and he'll accept leadership if the mutual advantages to the company and the employe and the viewpoints and plans are made strong enough and clear enough to him."

EMPLOYE OPINION POLLS: COMMUNICATING AND AUDITING COMMUNICATION

To determine the effectiveness of a company's communications with its employes, management must ask the employes what they think and what they know about certain things. The most feasible way of doing this is through a specially prepared questionnaire. By way of illustration, Mr. Gray drew on Caltech's experience with employe opinion polls.

Questionnaires are created through consultation with the employer to determine the purposes of the poll and develop appropriate questions. In addition to eliminating questions on which employes cannot be expected to have an opinion, the company is advised not to ask questions on any item which cannot or will not be changed or modified if the responses indicate substantial dissatisfaction. The questionnaire is divided into three parts: personal information, detailed questions, and additional comments. Employes are assured they will not be identified.

Most of the recent polls have been designed to secure information which will

Left to right: Robert W. Johnson, Industrial Relations Workshop chairman, and assistant comptroller, Standard Oil Company of California, San Francisco, Calif.; Sidney L. Briggs, assistant to the president, Librascope, Incorporated, Glendale, Calif.; Thomas W. Parham, general chairman, Management Workshop General Committee, and treasurer, Balfour, Guthrie & Co., Ltd., San Francisco, Calif.; William H. Jones, manager—employe publications division, Standard Oil Company of California, San Francisco, Calif.; William R. Thomas, president, San Francisco Control, and vice president-finance, Cutter Laboratories, Berkeley, Calif.; Robert D. Gray, director of industrial relations, California Institute of Technology, Pasadena, Calif.; C. Paul Hulten, vice chairman, Industrial Relations Workshop, and vice president and comptroller, First Western Bank and Trust Company, San Francisco, Calif.; and Roy N. Dreiman, first vice president, San Francisco Control, and assistant comptroller, Pacific Gas and Electric Company, San Francisco, Calif.

guide a company toward the following three objectives:

1. To develop a program of communication between management and employes.
2. To audit or inventory management policies and procedures.
3. To aid in the planning and development of a program of supervisory training.

In Caltech's experience, the major contribution of an employe opinion survey to the development of an improved program of communications was through finding the answers to these four questions:

1. *How much do employes know about their jobs, their company, its products and problems, its benefit plans, and the American business system in general?*
2. *Through what channels have employes been getting most of their information?*
3. *Through what channels would employes prefer to get most of their information?*
4. *On what subjects do employes want more information?*

Although results secured from one company cannot be applied to others, the results of several surveys suggest the following general conclusions:

1. The amount of knowledge possessed by employes varies greatly on different subjects.
2. Communication from the company needs to be improved because many employes are getting most of their information from other employes.
3. Employes want to get most of their information from the company through such media as a company magazine, bulletin boards, talks with their supervisors, group meetings, and letters; and they want their information more often and more rapidly than the company gives by such media as the annual report or the employe's handbook.
4. Employes want additional information on many subjects related directly to the employe and the company and also on general subjects, especially those which affect the company, the industry and business in general.

The practice of auditing management policies and procedures is simply an extension of good management practice such as financial audits and physical inventories. Rechecks are also desirable in order to measure improvement or retrogression in how some of the policies are working, and analyses by department, sex, length of service, etc., often indicate certain specific areas for improvement.

Where aid in planning and developing a program of supervisory training was sought, questions were developed and tabulations made to determine the general need for supervisory training, find the subjects on which supervisory training was most needed, locate the departments where training was most needed, and provide material for use in the supervisory training program. In some respects the appraisal of supervisory training may be related to the auditing of personnel practices and procedures since part of the objective is to discover how effective supervision has been and how and where it can be improved. Because most companies use the regular lines of organization as a means of communication, it is also related to communications.

Although employes may be flattered by having their opinions sought, the flattered feeling isn't likely to last if, after the questions have been answered and replies tabulated, the company shows no reaction to the results of the poll. The first step in taking action is to give a copy of the results to all employes, showing a percentage response to each answer to each question, with a minimum of comment by the company. Everyone in management should be informed of the results with supervisors and management personnel receiving the results in advance of the general distribution if possible. They should

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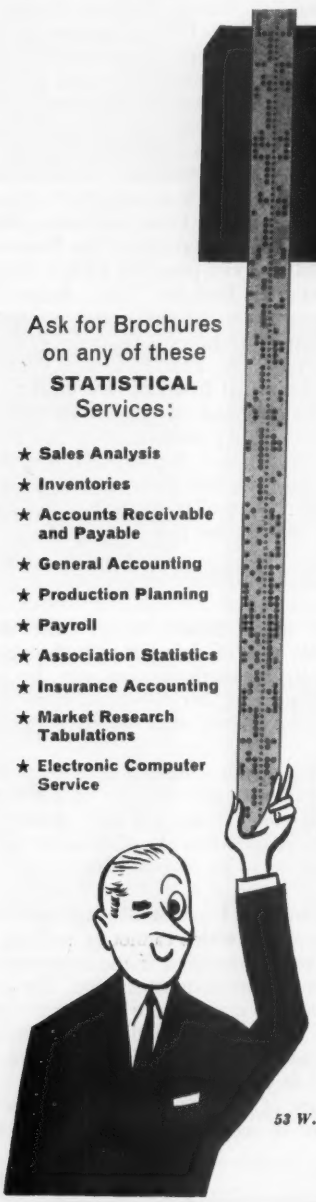

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also receive some special reports showing the results in their departments compared with company-wide results, and each department should have a chance to study its own results and prepare its own recommendations. Finally, it should be repeated over and over that the purpose of the poll is not to put anyone on the spot.

SO YOU'RE GOING TO COMMUNICATE—BUT HOW?

Defining employe communications as "the flow of thought and information between employes and management," Mr. Jones discussed three important aspects of this definition that relate to the "how" of employe communications:

First, this flow of thought and information can be accomplished in many ways;

Second, it must run two ways—from management to employes and from employes to management; and

Third, to be effective this flow should be conducted unfiltered, i.e., as the information is being conducted, it should not be cut, added to, re-interpreted or edited in any way that will change the meaning of the sender to the recipient.

Regarding media of communication, it is important to remember that a flow of thought and information is continually going on but it may not be accurate. To insure accuracy, company-sponsored employe communications systems and programs are established. In developing a communications system, the common needs of individuals or groups of individuals must be examined—those grouped by regions, departments, subsidiaries, plants, or work, and groups such as top management or supervisors. To insure adequate, accurate communications within each of these groups, some plan is necessary. While face-to-face communication may be best for a small, compact group, as the size and possibly the geographic spread of the group increases, some supplemental method of communications is needed. The best media of communication will depend on the organization, the kind of people employed, the information to be conveyed and the speed with which it may be conveyed.

However, to determine if you're getting through, it's necessary to reverse the flow occasionally. Some methods of getting information feedback at Standard Oil of California are employe opinion polls and readership surveys on magazines and other company publications. A problem still being worked on is that of filtered communications—reporting upward what the subordinate thinks the boss wants to hear, for instance. Another example of filtered communication, which works both ways, is listening or reporting through a filter of prejudice. If the source is considered unreliable or partisan, the message as interpreted by the listener is not that intended by the person doing the communicating. This is applicable to written as well as personal communications. For this reason, company publications must be reliable, honest and issued regularly. It helps if the editor is known to the people who read his publication—they're more likely to like him and believe him if they know him.

In determining who will be responsible for employe communications, two points should be kept in mind:

First, top management should be personally involved to the extent of giving approval to major communications efforts. At Standard Oil of California, for example, proposed subjects to be included in the main employe magazine must be approved by appropriate functional vice presidents of the company and by the president.

Second, one person or one group in a company should coordinate all employe communications so that messages are consistent and directed toward the same goal.

A NEW APPROACH TO
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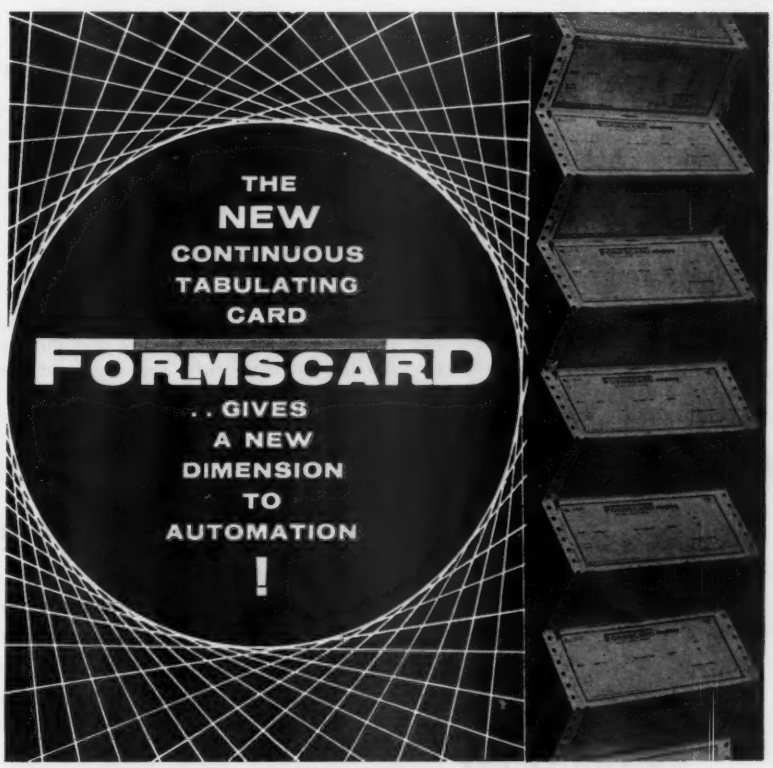

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Evaluation of Operations by Management

(Continued from page 365)

employes, which is 109 less than we had a year ago in February. Now look at the second line, average annual salaries in February 1959 are $6,132, an increase of $609 or 11 per cent over February 1958. Thus, while we have decreased our number of employes, our annual payroll is running approximately $4 million higher and has absorbed all the economy and more, that was obtained by reducing employes. Now let's look at revenue ton miles per employe. In February 1959 each employe produced 1,668 revenue ton miles or 12 per cent above last February, however, his salary or wage had increased 13 per cent between these months and the result of all these efforts in terms of labor cost per unit of sold production for the company was an increase of 1.3 per cent.

Another comparison is to look at average wage levels in February 1957. At that time they were $5,073 per year as compared with $6,132 per year in February 1959, two years later, an increase of 20.9 per cent. In the same period revenue ton mile production has increased from 1478 per employe to 1668 per employe, or 12.9 per cent. Thus the labor cost per unit of sold production has increased 7.1 per cent over this two-year period.

I am sure this recitation of the problem we have in trying to balance productivity against wage inflation is all the reason we need to justify our program of continuous evaluation of operations.

R. G. LOCHIEL:

We have tried to show you a fair cross section of the program we have developed to provide our top management with a fast and sharply focussed means of evaluating operations continuously. We know many companies, perhaps some among those you represent, use similar programs extensively. We arrived at our present program gradually by a "try-and-discard" approach. This is time consuming and has only one attribute, that is that our program fits our needs in the most effective manner. We are sure of this, because we have tried so many different devices for accomplishing the objective.

In summary, we have tried to accomplish five things:

First, to thoroughly analyze what top management needs to know to be effective in evaluating operations.

Second, determine the frequency with which they must see information on various phases of operations.

Third, work out a program which will be of continuous interest in its content and severely limited in its demands upon management's time.

Fourth, focus the program and management's attention on what is wrong and not on what is right. Again, "management by exception."

Fifth, design our presentation so that initial visual impressions are going to be accurate. This is vital, since visual first impressions are more apt to be lasting than any amount of narrative analysis of the presentation.

We believe we have succeeded in meeting the objectives in a manner suitable to our particular organization. We also believe that the problem of management evaluation of operations is never static and never solved for all time by any method adopted and consequently continuing re-analysis of the program is essential to continuing effectiveness. The problem becomes more complex as individual components of industry become larger and top management is progressively removed further from the scene of operation whether the removal is physical or only organizational. We would like to hope that our presentation may assist some of you who are seeking solutions to a similar problem and perhaps suggest untried techniques or devices of interest to those of you who have already developed solutions to this problem.

This Survey Answers Your Questions

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Where are control executives' responsibilities stated?
What is his educational and training background?
What is the typical control executive's age?
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Profile of the CORPORATE CONTROLLER
by Herbert F. Klingman

A reprint of a Controllership Foundation report which appeared as a three-part article in THE CONTROLLER

News of Other Organizations

NABAC

The National Association of Bank Auditors and Comptrollers began its 35th year with a new name. The organization will be officially known as "NABAC, the Association for Bank Audit, Control and Operation," a change which NABAC believes more clearly emphasizes that it is an organization of functions rather than titles.

NABAC's School for Bank Auditors and Comptrollers, conducted as a three-year summer course at the University of Wisconsin, Madison, Wis., graduated 101 seniors the past summer and registered a total of 322 for the 1959 session including, for the first time, two women bankers.

Malcolm H. Gibson, vice president and cashier of the Citizens Bank of Sheboygan, Wisconsin, was recently elected president of NABAC for 1959-60.

NSBB

R. Visscher Millar, controller Chemical Specialties Division, Pennsalt Chemicals Corporation, Philadelphia, Pa., was elected president of the National Society for Business Budgeting for the year beginning July 1, 1959.

ASCS

Sheldon F. Hall, vice president and secretary of Burroughs Corporation, Detroit, Mich., has been elected president of the American Society of Corporate Secretaries at the Society's annual meeting in Bal Harbour, Florida. Mr. Hall was also re-elected as a member of the Board of Directors.

AMA

Five office management seminars will be held by the American Management Association on the campus of Colgate University, Hamilton, N. Y., August 24-28, 1959.

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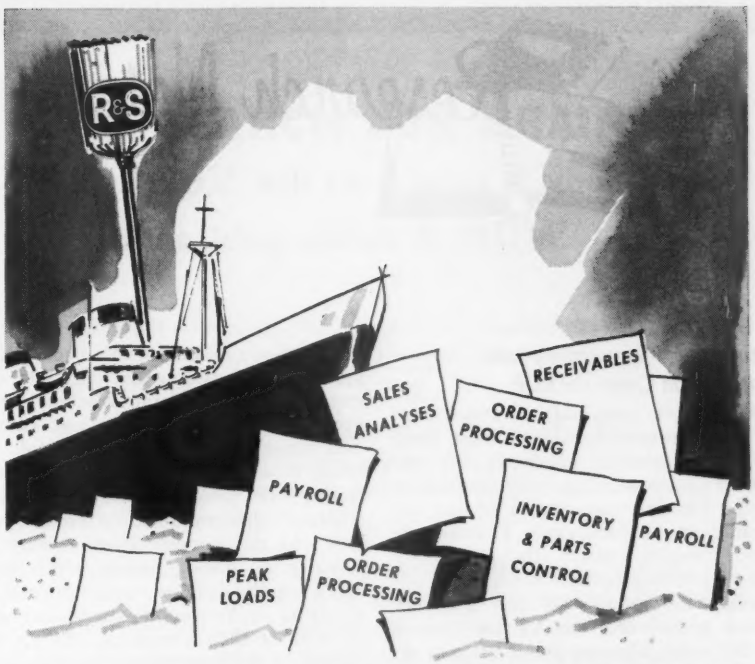

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Estimating Preparatory and Conversion Costs for EDP

Preparatory costs and conversion costs are rarely overestimated and most often are underestimated, frequently by substantial amounts, in decision-making studies for electronic data processing, according to Controllership Foundation's latest research report.* The problem is one of guessing by how much an as-yet-unassembled group will fall short of "good performance" on its first attempt in this field. This margin is often a reflection of the leadership and skill of the group, the extent of the cooperation and management support received, the influence of a few key decisions, to say nothing of the "learning curve" itself. The initial investment in EDP has a somewhat indeterminate base and management should be aware of that fact.

Site preparation is easiest to estimate and is usually the smallest of the preparatory costs. The estimate should be made by someone with engineering ability if possible. In practice, a figure of $100,000 to $150,000 seems sufficient to cover the alterations required for functionally adequate but unelaborate site preparation (and air conditioning) costs for a large computer and $50,000 for a medium-scale machine. The use of transistorized equipment tends to reduce this cost.

Time and costs involved in programming (systems design, coding, training, etc.) are extremely difficult to predict, either in man-years or in dollars. A detailed listing of the work to be done will help forestall oversimplification and indicate the types of skill required. It is probably the most useful approach which has yet been evolved. The experience of others, while not uniform, is also very valuable. Some value can also be obtained by using, as an over-all check, one or more of the average productivity figures achieved by other users, weighing it downwards for the more difficult applications or the relatively less able groups.

While it seems that conversion costs should be easier to estimate, practice often proves this has not been the case. Fairly reliable estimates can be made of the cost of assembling the conversion group and of putting the data into the required magnetic form. Machine rates, key punch production rates and sample data conversion tests are all useful. At times, however, the following additional factors have assumed unanticipated importance—the errors in the present records and the inconsistencies existing in partially duplicating records which were being consolidated, the number of changes occurring in "converted" records between the date of their conversion and the inception of the new system, the difference in skill between the group helping to establish the estimates and the group actually assembled to do the work, and finally, the extent to which the departments require instruction in the operation of the new system.

Parallel operations and rate of conversion are the final two factors which affect preparatory and conversion costs to an important extent. In both instances the most important single element is the additional equipment rental cost which occurs during parallel operation and in that period when the useful work load is being built up; personnel costs are usually not so important unless a substantial number of difficulties is encountered. Some parallel operations are inevitable and highly desirable; excessive costs, if any, usually result from having the machine arrive prematurely. In the more successful installations, conversions seem to have been scheduled as though they anticipated more than an average degree of difficulty but were prepared to accelerate their schedule if actualities permitted. The experience of others is of value and interest in this respect and should be used where practical. The following give some idea of the calendar period required to convert two typical applications in their more basic form: Salary payroll of 5,000 employes—one week to four weeks; Public utility billing (first 1,000,000 accounts)—up to one year.

* *Business Experience with Electronic Computers*, prepared for Controllership Foundation, Inc. by Price Waterhouse & Co. Publication date to be announced in a future issue.

Pension Funds Not Tycoons

Pension funds are not using their increasing equity holdings to try to control the activities of corporations, according to a study sponsored by the Fund for the Republic. A major reason is that banks control the investment programs of most self-insured pension funds and involvement in corporate control might lead to government regulations on how they handle such accounts. Also, banks wish to avoid the possibility of becoming "locked in" on their investments in corporations in which their clients hold stock, or endangering their reputation for impartiality as fiduciary agencies managing clients' property and money.

The amount of bank-administered corporate pension funds invested in common stocks rose to nearly 25 per cent of total assets in 1957 from about 12 per cent in 1951, the study showed.

Economics of Accounting Practice

Based on a study of more than 1,000 accounting firms and practitioners, a bulletin released by the American Institute of Certified Public Accountants analyzes fee production, salaries, office expenses, and net income in terms of percentages of gross fees, with extensive tables to permit the practitioner to compare his own results with the medians and ranges for offices of similar size.

Great Expectations

Sales and profits prospects for the third quarter 1959 are bright, according to the large majority of business executives interviewed in Dun & Bradstreet's latest poll of businessmen's expectations. Year-to-year sales gains were anticipated by 74 per cent of the 1,513 respondents, while 24 per cent foresaw no change, and 2 per cent expected declines. Fifty-nine per cent look forward to increased net profits while only 4 per cent expect a decrease.

Courts Reverse Ruling on Advance Payment for Services

The case involved the right of a taxpayer to defer from taxable income the amounts received in advance for services and to have said amounts taxed over the period the services were rendered. The Commissioner of Internal Revenue had held the service contract income was received under a "claim of right" with no restriction as to disposition and was therefore taxable when received. The Tax Court sustained the Commissioner, following a long line of previous decisions. The Circuit Court in reversing the Tax Court held it was with the "economic and bookkeeping" sense that the tax statutes are concerned and until "all the events have occurred, both as to cost and time of performance for which the petitioner has been paid, the receipts do not ripen into taxable income."

Trust-Busting Is Big Business

The American Bar Association's antitrust section, only seven years old, has over 4,000 members and is the fifth largest of the Association's 18 specialist categories. The 250-man antitrust staff of the Justice Department initiated 57 new prosecutions last year, almost double the total of 1952; the Federal Trade Commission added 86 last year, 31 more than the previous year, and private suits went up 82 last year over the year before.

The Justice Department spends nearly $4 million yearly on antitrust, excluding FBI employes' salaries, and the FTC spends $2.9 million annually.

Defense costs run even higher: GE is estimated to have spent over $1 million in one suit; U.S. Gypsum $250,000 a year in legal fees alone for a long-range defense; and Socony Mobil Oil Company $1.8 million just to gather pretrial documents.

The specialists come high, too. One authority estimates a "good" antitrust lawyer can earn $80,000 or $100,000 yearly and economists, it is claimed, run as high.

Aid to Education

A grant from the Whirlpool Corporation has established the first professorial chair to be endowed at the School of Business Administration of the American University, Washington, D. C. The new chair will conduct research into problems and trends in marketing and will make special studies of the home appliance industry for the purpose of helping appliance retailers improve their marketing and management skills.

Foreign Computers to Enter U.S. Market

La Compagnie des Machines Bull, largest producer of office machines in France, and England's EMI Electronics, Ltd. hope to give American computer manufacturers competition next year. Bull, which has exported to the U.S. anonymously and on a limited scale under an agreement with the Remington Rand division of the Sperry Rand Corporation, is now looking for a "full partnership" agreement which would involve free export of its computers and other products to this country. EMI reports it has prospects for a number of orders for several new giant computers.

Capital Expenditures Up

New funds in the amount of $2.6 billion for expansion improvements have been approved in the first three months of this year by the 500 major manufacturers regularly reporting to the National Industrial Conference Board's quarterly survey of capital appropriations. This is an increase of 37 per cent over the 1958 figure. The chemical industry was the only group not showing an increase over 1958. The survey noted further that the spending emphasis would be on modernization.

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Personal Notes

TOP MEN . . .

Gerald L. Andrus was recently elected president of his company, the New Orleans Public Service Inc., New Orleans, La.

PROMOTIONS . . .

Erle G. Christian was named vice president of Cities Service Company, New York. . . . The election of **Rudolph Epstein** as vice president-administration of Exquisite Form Brassiere, Inc., New York, was announced recently. . . . **John P. Harbin** was elected vice president-finance of Halliburton Oil Well Cementing Co., Duncan, Okla. . . . **Harold W. Haynes** has assumed the responsibilities of controller of Boeing Airplane Company, Seattle, Wash.

The May Company, St. Louis, Mo., has named **Roland H. Kolman** vice president. . . . **Lawrence E. Walkley** was elected vice president-operations of Westinghouse Air Brake Company, Pittsburgh, Pa. . . . **Russell Wetmore** recently became controller of Mutual of New York, New York. . . . The election of **William S. York** as second vice president of the Metropolitan Life Insurance Company, New York, was announced recently.

Joseph M. Walsh has been appointed general manager of the Grand Rapids Division of Lear, Inc., Grand Rapids, Mich. . . . **Charles E. Sener, Jr.** was named assistant vice president, Revenue Requirements and Accounts, of the Chesapeake and Potomac Telephone Companies, Washington, D. C.

Donald M. Russell recently became assistant to the executive vice president of FWD Corporation, Clintonville, Wis. . . . **Martin A. Kavanaugh** has been elected controller of Douglas Aircraft Co., Inc., Los Angeles, Calif.

COMPANY CHANGES . . .

R. H. Warner has become controller of Globe-Union Inc., Milwaukee, Wis. He was formerly controller of Wico Electric Company, a subsidiary, at West Springfield, Mass. . . . Simpson Timber Company, Seattle, Wash., recently announced that **A. R. Green** would become vice president and **Robert B. Hutchinson** would succeed Mr. Green as treasurer. . . . Fansteel Metallurgical Corporation, North Chicago, Ill., announced that **Stuart B. Miller** had become vice president-finance and **John H. Devlin** was elected comptroller of the company. Mr. Miller, who has been active in the affairs of Controllers Institute, is a past president of the Iowa Control and a member of the national Committee on Management Planning and Control from Region VIII.

NEW CONNECTIONS . . .

A. F. Bogle has become comptroller of Wilson & Toomer Fertilizer Co., Jacksonville, Fla. . . . The election of **George R. Ladner** as treasurer of Consolidated Mutual Insurance Company, Brooklyn, N. Y., was announced recently. . . . **Donovan H. Tyson** has joined National Semiconductor Corporation, Danbury, Conn., as treasurer.

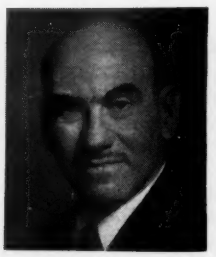
C. H. Bentzel has become assistant treasurer of National Rejectors, Inc., St. Louis, Mo. . . . **A. W. D'Ambrosia** has joined The Sample Inc., Buffalo, N. Y. as controller. . . . Servomechanisms, Inc., Hawthorne, Calif., recently announced that **Thomas H. Evans** had joined the company as controller. . . . **Howell Foster** is now controller of Emil Greiner Co., New York. . . . **Frank H. Van Duzer** is controller of Becton Dickinson & Co., Rutherford, N. J. . . . **M. R. Odermatt** has joined the Bee Bee Shoe Company Division of BGS Shoe Corporation, Manchester, N. H., as controller.

John T. Schuler was elected controller of Title Insurance and Trust Company, Los Angeles, Calif. . . . **C. Clifton Pruitt** is now vice president of Union Trust Company, St. Petersburg, Fla. . . . **W. J. Smith** became controller and assistant treasurer of Coates Board & Carton Co., Inc., Garfield, N. J. . . . **D. R. Gilmaster** has joined Canadian Food Products Sales Limited, Toronto, Ontario, Canada, as

MR. WALKLEY

MR. WETMORE

MR. WALSH



MR. SENER

MR. EVANS

CHANGING YOUR ADDRESS?

Notice of change of address for THE CONTROLLER should be received in the editorial offices of THE CONTROLLER, Two Park Avenue, New York 16, N. Y., before the first of the month to affect the following month's issue. For instance, if you desire the address changed for your October issue, we should be notified of your new address before September 1. *Be sure to include your postal zone as well as your old and new address.*

vice president and treasurer. . . . **Harry K. Johnson** recently became assistant controller of Hercules Motors Corporation, Canton, Ohio.

NEW APPOINTMENTS . . .

W. T. McGillivray, controller of California Packing Corporation, San Francisco, Calif., was recently elected to the Board of his company. Mr. McGillivray is a past president of the San Francisco Control of Controllers Institute and has served as a national director and regional vice president of the Institute. . . . **C. Andrew Petas** has assumed the added responsibilities of vice president and treasurer of Gough Industries, Inc., Los Angeles, Calif.

Marcel F. Tetas was elected treasurer and a member of the Board of his company, the Thomas & Betts Company, Elizabeth, N. J. . . . **Horace C. Walton** was elected controller of Fairbanks Whitney Corporation, New York. . . . **Howard H. Ward** has become treasurer of his company, Ball Brothers Company Incorporated, Muncie, Ind.

Ragnar W. Anderson, secretary-treasurer of Koehring-Waterous Ltd., Brantford, Ontario, Canada, was recently elected to the Board of his company.

SPEAKERS . . .

Alexander Campbell, president, Reliance Securities Corporation Ltd., Vancouver, B. C., Canada, addressed the Annual Conference of the Institute of Chartered Accountants of Manitoba on June 4. . . . **A. G. Rankin,** vice president-finance and secretary, British Columbia Forest Products Limited, Vancouver, B. C., will address the Annual Conference of the Institute of Chartered Accountants in September on "Organizing the Reporting Function." . . . **C. J. Kushell, Jr.,** vice president-finance, Montgomery Ward & Co., Chicago, Ill., addressed the National Conference of the National Society for Business Budgeting in Milwaukee on "Modern Budget Concepts in Multiunit Retailing".

Speakers at the forthcoming annual national convention of NABAC, The Association for Bank Audit, Control and Operation, include **Steve H. Bomar,** senior vice president and treasurer, Trust Company of Georgia, Atlanta; **Robert A. Duffy,** vice president, Marine National Exchange Bank of Milwaukee, Wisconsin; and **Charles A. Agemian,** vice president and comptroller, Chase Manhattan Bank, New York City. . . . **William J. Hogan,** executive vice president-finance, American Airlines, Inc., New York, spoke at the opening session of the 40th Annual Conference of the National Association of Accountants. Also on the program was **James A. McFadden, Jr.,** director of administrative services for the RCA Laboratories Division of Radio Corporation of America, Princeton, N. J.

Obituary

CHARLES ROBERT FAY

Twenty-third President of Controllers Institute

CHARLES ROBERT FAY, twenty-third president of Controllers Institute and vice president, Paint and Brush Division, Pittsburgh Plate Glass Company, Pittsburgh, Pa., as well as a director of his company, died on July 19, 1959 after a short illness. He was 59.

After graduation from Purdue University, B.S.M.E., in 1922, Mr. Fay started his career with the Weidly Motor Company followed by the Thomas Skinner Steel Products Company in Indianapolis. He joined Westinghouse at East Pittsburgh in 1925 where he worked successively in the Equipment and Methods Department, Stock and Routing Section, Production Department and Raw Material Storage Department. Starting in 1930 he assisted in making a standard cost installation in the East Pittsburgh Plant, becoming assistant director of the Industrial Accounts Division in 1934 and director of the Employe Accounts in 1938.

In 1942, when on leave of absence from Westinghouse, he was appointed to the War Production Board as consultant on the Controlled Materials Plan. On his return to Westinghouse in 1943, he was appointed assistant to the vice president in charge of Contract Terminations. In 1944 he became comptroller of the Pittsburgh Plate Glass Company and was named vice president and comptroller in 1955. From February through May 1953, he served as consultant to the House Appropriations Committee which was at that time considering the 1954 National Budget.

Holder of membership certificate #3408 in Controllers Institute by virtue of his election in 1945, he served as a national director from 1952-55 and in 1953-54 was a national vice president from Region IV. He was vice chairman of the national Committee on Social Security in 1950-51 and chairman in 1951-53. He served as president of the Pittsburgh Control in 1950-51. Elected national president for the 1954-55 term, he then served as chairman of the national Board of Directors, 1955-56, and was made an honorary member. At the time of his death, Mr. Fay was a trustee of Controllership Foundation.

Many Institute members attended the funeral which was held on July 22. National officers included President-elect Roger A. Yoder (Detroit); George W. Schwarz, past national president, 1953-54; Paul J. Urquhart, past national president, 1936-37; William A. Crichley, past national director (Cleveland); Edward H. Eaton, national director (Pittsburgh); L. Stanton Williams, incoming Control director (Pittsburgh); and Paul Haase, managing director, Controllers Institute. Mr. Eaton and Mr. Williams served as pallbearers.

HONORS TO . . .

James D. Willson, vice president-finance and treasurer of the Norris-Thermador Corporation, Los Angeles, Calif., who has received the Lybrand Award Gold Medal for his paper, "The Accountant's Contribution to Industrial Relations."

Other medal and certificate winners were **William C. Jones,** controller of the Alabama By-Products Corporation, Birmingham, Ala.; **James A. McFadden, Jr.,** director of administrative services for the RCA Laboratories Division of Radio Corporation of America, Princeton, N. J.; **Kenneth R. Rickey,** vice president and treasurer, Lenkurt Electric Company, Inc., San Carlos, Calif.; **William J. Vatter,** professor of accounting, University of California, Berkeley, Calif.; and **John S. Woodbridge,** comptroller, Pan American World Airways, Inc., New York.

Winslow E. Pike, vice president and controller, First National Bank of Atlanta, Georgia, and president of the Atlanta Control of Controllers Institute, who has been elected second vice president of NABAC, the Association for Bank Audit, Control and Operation. New directors-at-large include **Howard A. Leif,** vice president and controller, Bank of America NT & SA, San Francisco, Calif., and **William Widmayer,** vice president and comptroller, Morgan Guaranty Trust Company of New York, New York. . . . Newly elected vice presidents of the National Association of Accountants include **J. Curran Freeman,** controller, Dresser Industries, Inc., Dallas, Texas, and **Donald J. Patton,** treasurer, The Hadley Corporation, Weaverville, N. C.

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Return On What Investment?

(Continued from page 368)

effect on them. Since fixed costs are not affected by the decision, engineering economists omit them from their considerations.

Again, consider the book value of a large investment which is obsolescent. Why shouldn't a proposed replacement be charged with that book value, as well as the new investment, since the book value will be wasted? Not on your life, says the engineering economist. That would be penalizing the new investment, and letting a past error penalize your future. Consider only the cash flows which will be affected by the decision, they recommend. In fact, the only cash flows from the old investment which will change are tax changes due to timing of the depreciation allowances. If the old equipment is scrapped, the tax benefit may come sooner if the investment is made—a benefit to the proposed replacement.

Our department uses this incremental approach in its evaluations. We do this not because we are sure it is right, but rather because the arguments in its favor have been stronger than those in favor of some investment base including allocations of past investments. Also, happily, it avoids several of the problems outlined above concerning the choice of an investment base on the allocated basis. The book value vs. original investment argument, for instance, becomes completely academic.

Note that the incremental approach can still consider future investments in the year they occur. All the problems are not solved—inflation is still a problem in the valuation of future investments.

Also, some new problems are introduced. We are far from convinced that this approach is ideal. Consider a problem with me that any savings project produces in an incremental analysis. Let us assume that facilities have just been installed, at considerable expense, to produce a cheaper raw material. The justification for the project was entirely in the reduced cost of a raw material which is processed further in the plant. Let us also assume that the facility installed has excess capacity over that currently required—but that this additional capacity has been "ear-marked" for future processing through existing facilities as part of the justification.

As soon as the lower costs show up on the accounting records, a fault appears. Using the new costs, and variable costs only at that, there is apparently a wider margin between these costs and the prices of various processed forms of the raw material. Since idle capacity for the raw material exists, numerous proposals are likely to come forth for additional processing facilities justified on that new, wider price-cost spread.

However, recall that these anticipated savings have already been used to justify one investment. If the volume thus disposed of was in the forecast which justified the raw materials facilities, the savings in raw material cost would be double-counted if they were also assumed to benefit the new investment. The only way to justify additional processing facilities, without jeopardizing the original return, is to price the raw material into the evaluation at the going price (or cost) before justification of the raw material facilities.

Incremental decisions on such processing facilities may be justified, if there is no other way to dispose of the volume. However, ideally, all such processing equipment should be foreseen and considered at the same time as the raw material facility. Then they can all be sized, by economic balance.

In spite of such problems, the incremental approach seems preferable to us, at the moment, for investment decisions and we avoid that Pandora's box of allocation of past investments.

SUMMARY

There is general agreement that some form of return on investment should be used for comparison and choice of new investments. *Assuming that new income or profit can be estimated from accounting records, what should the investment base be?*

The project under study may use a portion of presently idle process or utility capacity. This capacity had one value when it was installed, a second on the books today, a third if it were to be replaced, a fourth if the replacement cost

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were to be reduced for the use which has been made of it, and a fifth if it were to be scrapped. The range of these values would provide an extreme range of return on investment results. Objections can be raised to use of any one of them.

Deciding upon the value of present equipment doesn't complete the solution. Some idle capacity will probably be built into the proposed equipment, and future requirements for additional facilities may be moved up in time by this project.

Atlas presently follows an incremental approach to the problem, not because we're sure we're right, but because the arguments in its favor have been stronger. No allowance is made for past investment since their fixed costs are not affected by the decision on the new project. All present project investment is included regardless of the excess capacity provided. The effect of future investments is considered by including them only for the years in which they would not otherwise be required. To do this we use the "discounted cash flow" method of determining interest rate of return on investment.

Cutting Costs of Sales-Order Processing

(Continued from page 371)

sands of dollars, such a saving could be a nice addition to the earnings per share.

A mechanized procedure may not only provide a monetary return, but may improve management control to the point where additional profits may result, better sales analysis may assist the sales manager to increase sales, or a better knowledge of production requirements may be instrumental in producing manufacturing economies. From an accounting standpoint, this will usually improve internal control, facilitate faster closings, and encourage the use of techniques such as profit-planning and budgetary control.

SOURCES OF SAVINGS

While machines may be instrumental in obtaining the savings, they are not the sources of the savings. In fact, they may often increase costs if they are introduced without attention being given to the underlying problems of organizational structure and accounting philosophy. Entire processes should be reviewed as a whole and not as disintegrated, decentralized, unrelated parts. While performance may be improved in individual functions, much more can generally be accomplished by a completely new approach.

Savings will come from three separate sources: From centralization, from integration, and from mechanization. In developing any new procedure, each of these possibilities should be considered as to their potential contribution to cost reduction.

CENTRALIZATION

As a result of expansion and growth, many of our present-day companies have sales offices and manufacturing plants around the country. This has occasioned the development of divisional accounting departments and clerical groups at many places within the company. Control and direction of these groups from company headquarters have often been hampered by the distance and remoteness of these offices. It has also been difficult to develop supervisory talent at these local levels and transferees from the head office do not always solve the problem. The combined costs of these various operations can be quite sizable.

Now that improvements in transportation and communications have brought these operations much closer, it is well to ask whether the time has not come to consolidate these data-processing operations. While each case must be studied on its individual merits, it is quite clear that substantial savings in time and training costs can result from centralization of data-processing operations. Furthermore, it opens the door to larger savings as a result of integration and mechanization.

Local offices spend considerable time processing data to be included in operating reports which are then sent to the head office for consolidation. If this same data could be processed at the head office to begin with, one consolidation would be eliminated, many cut-off problems would be solved, and the need for special reports, such as cash forecasts, might be avoided. Where local offices may be employing personnel who are not fully loaded with work, personnel savings may result merely from consolidating such work. Control over the design and use of forms would be improved, and the general accounting would be simplified.

A major problem today is to obtain adequate supervisory personnel for remote locations. Too often this supervision is left to a resident sales manager who has little experience in supervising clerical work and, in many cases, will refuse to be concerned with it. Centralization of data processing will result in better trained personnel and supervision in depth.

Many of the local offices are in areas where it is difficult to recruit personnel because of unsatisfactory working conditions. Inadequate lunch and shopping facilities may cause high turnover which can be avoided by centrally located offices.

(Continued on page 396)

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These central offices need not be located at the head office of the company if some other location should prove geographically to be more suitable for communication with the other offices.

Another obvious advantage from centralization would be the reduced traveling time for internal auditors, permitting a greater amount of time to be spent reviewing transactions in the central office.

One question that will always be raised is the effect that centralization of accounting would have on decentralized management. The two are completely compatible since operating personnel need accounting reports to work with, but they do not need to prepare them. A good centralized reporting system should provide them with more information than they would otherwise receive, but relieve them of the necessity of office supervision, for which they may not be well equipped. At the same time, executive management has much better control of what is going on at these remote locations and is not dependent entirely on reports from the operating divisions. They can sit back and watch the results as long as the decentralized management performs adequately, but they are in a position to step in and take corrective action whenever a situation becomes critical.

INTEGRATION

What centralization is to the company as a whole, integration is to any one location. It means the combination of a number of functions formerly performed separately, and quite possibly in separate departments, into a single over-all, comprehensive solution to the problem. An elementary example would be preparing and typing invoices, preparing shipping notices or bills of lading, posting accounts receivable records, and recording cash receipts. With careful study and reasonable ingenuity, all four of these functions could be combined into one comprehensive procedure and considerable savings should accrue.

These savings occur in many ways, arising mostly from things formerly done which do not now need to be done. Multiple copies of forms such as order and invoice forms do not need to be distributed to a number of departments to enable them to prepare reports required in the performance of their duties. Such reports as may be needed will be prepared in the central source. Similarly, telephone traffic between departments as to data contained in forms or reports issued by them will be eliminated. Transcribing errors made in copying from one form or report to another form or report will be eliminated, saving much confusion and time and effort. The continual preparation of reports for submission to other departments to prepare other reports can go on indefinitely, but the chain will be broken with integration, and at the same time, the flow of information will be faster than when it is forced to percolate through a number of functional units.

A further point of considerable benefit lies in the simplification of the organizational structure that would result from integration of the various functional units. More will be accomplished with less supervision than heretofore and well-trained, first-line supervisors will be released for more useful duties.

MECHANIZATION

There can be no doubt that machines belong in the modern office. Rising clerical costs, high turnover, and the shortage of trained clerical personnel will force even the smaller companies to mechanize most of their routine tasks. The question is not so much one of whether machines should be used as it is of how they should be used.

In the past, equipment capabilities have sometimes been a limitation in the field of sales-order processing. Considerable emphasis has been placed on "batching" techniques to improve machine utilization at the expense of customer service. In a number of cases, however, where the "batching" tendency was suppressed in favor of "in-line processing," it has been possible, with conventional tabulating equipment, to integrate all, or nearly all, of the functions listed earlier into a simple continuous process, with marked improvement in profits.

Now that several manufacturers have offered "in-line" processing equipment, the fundamental question becomes one of determining what needs to be done.

Machines offer speed, accuracy, and economy, but many machine installations unfortunately develop nothing but speed. Accuracy is often sacrificed, because of faulty control techniques, and economies fail to materialize for a variety of reasons. If properly installed, however, machines should achieve all these objectives and should eliminate much human effort from routine tasks.

The programming of a complex operation for a computer will reduce future training costs immeasurably. Individuals may resign, retire, or die, taking their specialized knowledge with them, but once this specialized knowledge is converted to a machine program it belongs to the company indefinitely. Also expediting, tracing, and other activities developed to cope with cumbersome procedures can be avoided when machines are used to speed up the flow of paper work. Another collateral benefit of machines is their ability to highlight exceptions which require immediate attention by management.

SUMMARY

Taking a long, hard look at the costs of sales-order processing could prove to be very rewarding. First, determine the combined costs of these functions, and then consider alternative processes to reduce these costs. If the unit costs per order are unusually high, it may be necessary to eliminate certain unprofitable sales. This should probably not be done, however, until a determined effort has been made to reduce the processing costs per unit. Costs can be reduced by centralization, integration, mechanization, or by a combination of any or all of them. A study should be made as to what needs to be done and when it needs to be done, before deciding how to do it. These costs are increasing all the time and productivity tends to diminish. It will take constructive action in this direction to enable many companies to continue to make satisfactory earnings per share.

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